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BY C. VARLO, Eſq.

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A
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CHAP. I.

The AUTHOR's Opinion on SMUTTY-WHEAT; from whence it Proceeds, and its Cure.

SMUT is a black ſubſtance, incloſed by a tough ſkin, when broke falls to powder; and though many authors have warmly and learnedly handled this ſubject, yet I humbly conceive, they have dropped ſhort of the real cauſe from whence this misfortune proceeds.

I have turned over moſt authors on this ſubject, and find ſeveral have ſtumbled on part of a cure, though none have hit upon the right cauſe. The ſtrength of every argument is known by the reaſons quoted therein; neither can any argument be good or well grounded, that will not bear ſifting or trying to the bottom.

In order to open the ideas of my reader as much as poſſible, I ſhall give mine, together with a few quotations, as follows.

In 1764, a paragraph appeared in the Dublin Journal, of a farmer in Cheſhire that ſowed a field with wheat, one half of which was marled, and the other dunged; the dunged part was ſmutty, but that which was marled, was not. The ſaid paragraph alſo deſired an anſwer from any one who could ſolve this myſterious point, but was not anſwered.

In the ſummer of the laſt year, 1769, I ſaw a piece of wheat belonging to one Mr.

Clarke, a farmer, near Bungey, in Suffolk, which contained about ſeven acres, four of which were the ſmuttieſt I had ever ſeen; upon an average, it was computed that the third part was ſmutty, but the remaining three acres were very clear of ſmut.

This was a curioſity which brought many people to ſee it, and ſtaggered many who pretended to be connoiſſeurs in this myſterious point.

I told Clarke, that I believed I could gueſs the reaſon. So can I, ſays a by-ſtanding farmer, which is, he did not pickle his ſeed; for I always ſteep mine, ſays he, in ſtrong ſalt and water, and lime it, by which means, I never am troubled with this malady.

Yes, anſwered Clarke, I pickled the ſeed all alike in ſalt and water, ſtrong enough to ſwim an egg, and limed it till I brought it to a conſiſtence proper for ſowing, and ſowed it all within the ſpace of three days, which proved dry weather; the field likewiſe was ſummer fallowed, and all got plowing alike.

I told him, that I imagined he threw the diſeaſe into the ground by his manure; for that I apprehended he dunged the ſmutty part, and either left the other undunged, or manured it with ſome ſort of compoſt.

Upon my word, anſwered Clarke, that is juſt the caſe, for I dunged the ſmutty part, but the other I manured with a black mud or ſludge, I raiſed out of the bottom of a pond and other ditches.

This immediately correſponded with all the concurring circumſtances I had ever ſeen of the ſort.

Upon this, we went to look at the wheat, and by pulling up many roots of the ſmutty corn, found innumerable worm-holes into them; but as the weather was very hot, and the ground dry and ſandy, the worms had retired deeper into the ground for moiſture, therefore could not come at them, having no ſpade in the field.

The above is a convincing proof, that the diſeaſe came into the ground by the way of the dung, as both the land, ſeeds, and management, were all alike.

It was alſo evident, that the pickle of ſalt and water (though ſtrong enough to bear an egg, in which the ſeed was ſteeped a winter's night) had not efficacy enough to prevent the vermin brought in by the dung, from preying upon the roots of the corn.

I muſt alſo obſerve, that Clarke told me, he laid the dung on when in the ſtate of fermentation, ſmoking hot out of the fold-yard, at which period, the flies or inſects were in their greateſt vigor, and their eggs moſt likely to come to perfection.

This alſo ſhews the great miſtake in farmers not laying their dung in heaps, and giving it time to ferment, rot, and cool, before they lay it on the land, that theſe vermin may be ſmothered in their infancy, and not taken out in the dung, to prey upon the fruits of their labour.

I have read ſome authors, who aſſert, that ſmut proceeds from the ground being wet, but the above accident quite deſtroys ſuch an argument, as this was remarkable dry ſandy ground.

A ſimilar caſe once happened to myſelf. I ſowed a field of wheat, the ſeed of which I bought at a diſtance; I pickled it in the common way, with ſalt and water only; I dunged the ſaid field as far as my dung went, the reſt I limed, as far as that went, but was ſtill ſhort of manure for two ridges, which I ſpread over with ſoot and aſhes.

The conſequence was, that the wheat as far as the dung reached was ſmutty, the reſt of the field was quite clear. This naturally led me to try to find out the reaſon thereof; and in examining the dunged part, by pulling up the ſtubble, &c. I found the ground particularly full of grubs or worms of ſeveral ſhapes and ſorts; which I make no doubt, were the offspring of the uſual inhabitants of dunghills, ſuch as flies or inſects of diverſe ſorts, which drop their eggs therein, and by the heat, fermentation, and putrefaction of the dung, theſe vermin are brought to life and miſchief.

The niceſt obſervations I can make, and concurring circumſtances herein quoted, leave me no room to doubt, but ſmut proceeds from a worm or grub; and if it be not the red or cut worm, it is of that nature. I have taken a ſmall grub of that likeneſs, out of a root of ſmutty wheat, and have very often found ruſty cankered traces of worms in the roots of corn.

About the laſt of May and beginning of June, wheat is ſhooting into ear; and the ear is no ſooner out of the ſtem or ſtraw, but the ſkin of the grain is formed, and filled with a ſoft, pulpy, milky ſubſtance.

At this criſis, the worm or grub ſeizes upon the root of the plant, and ſeeds upon the fine particles or juices thereof, which ought to aſcend to nouriſh or feed the grain. And though ſo ſmall a worm may not take in all the juices belonging to an ear of wheat, yet, by making an orifice to feed out of, it wounds the plant, and gives vent to the ſap, ſo that it bleeds (as it were) itſelf to death.

A root of corn by branching or ſtooling, may produce thirty or forty ſtalks or ears, and each ear takes in its nouriſhment from the main root, by a vein or leader purpoſely placed to feed through.

Now, if the worm or grub ſhould ſeize upon the ſaid vein, and feed upon what ſhould ſupply nature, doubtleſs the milky ſubſtance already incloſed in the ſkin, would dry up, and become a black powder, or dead ſubſtance, for want of farther nouriſhment; nay, in ſhort, I believe it very poſſible for one grain in the middle of an ear to be ſmutty, and the reſt not hurt; as doubtleſs each grain has a vein leading from the root peculiar to itſelf, through which it takes in its nouriſhment; but I believe it impoſſible to account for this in any other way, than by a worm or ſome ſuch inſect ſeizing the vein peculiar or belonging to each grain.

I look upon it that there are three ſtages or periods, in which corn may be ſpoiled by theſe vermin, viz.

Firſt, when they prey upon it, after it is in the ear, but before the grain is formed. When it is catched in this ſtate, all the ear or chaff ſtrips or falls off, and leaves ſtanding a naked ſtalk; this we have ſeen often happen even in all ſorts of grain.

Secondly, (as above obſerved) when the ſkin or bran-part of the grain is formed, and tough enough to hold the ſoft milky ſubſtance, but before it is formed into a ſolid body, then the vein is wounded, and nature ſtopped from fulfilling her office; therefore, what was already in the ſkin, for want of farther ſupply, dries, and becomes a black, light and lifeleſs powder, much like lamp-black; but as the ſkin or bran is tough, it is confined therein, like or in the form of a ball; and when it comes under the flail, it is burſt and let at liberty, like duſt among the corn, and hangs at the downy end thereof, ſo that when it comes to be ground, the flour and bread is made black and diſagreeable to the eye, but indeed not to the taſte, as the palate cannot perceive any diſagreeable taſte it has: and, if the wheat could be threſhed or got out without burſting theſe balls, it would not be of much ill conſequence, as the balls are ſo light, that they might be eaſily ſeparated from the heavy corn by ſeveral methods.

Therefore it is beſt for a farmer who is troubled with this malady not to threſh, but laſh ſuch corn, and winnow the ſeed, with as little mixture or treading on as poſſible.

Another good method is, to leaſe or pick the ſmut out before it is threſhed, but it muſt be a nice diſcerning eye that does this, as ſome ears of ſmut are much like the good corn; and if one ear or two be left in a ſheaf, it will ſpoil the colour of the bread.

The third ſtage in which wheat is ſeized, or obſtructed in its feeding or filling, is when the grain is about half ripe; then the worm ſeizes it, and being deprived of farther nouriſhment, it dries and ſhrivels up to a ſmall weeſened flinty grain, and though it is ſmall, yet, by its firm texture, one might expect it to produce a little meal; but upon inſpection it is found to be almoſt as hard as a flint, and of no uſe. This is called by ſome of the Engliſh farmers, flints, and by others trucks.

The above conſiderations are more than a probability, that a worm is the cauſe of ſmut; yet I hope what is to follow will make it appear much ſtronger in its favour: I ſay, I hope, becauſe if we are acquainted with the diſeaſe, the cure is more certain.

It is allowed by moſt writers on this ſubject, that pickling wheat will prevent ſmut: this I readily admit, but however believe, that ſome pickles commonly made uſe of will ſcarcely prevent it; and as firmly believe ſome others to be effectual.

But give me leave to aſk ſuch authors, how they propoſe theſe pickles to operate? Do theſe authors, who believe that ſmut comes by a blaſt, imagine, that pickle could prevent the wind from having any power over the plant? And was it not both a very partial pickle and wind, that would prevent all the Cheſhire and Norfolk farmers fields from being ſmutty, as well as that part which was marled; likewiſe mine and ſeveral others which have had the like trials, and met with the like impartial winds?

Again, does the author who places the reaſon of ſmut to the account of not changing the ſeed, believe, that if the pickle had power to prevent the ſeed, bought three or four miles off, from being ſmutty, that it ſhould not have the ſame power over ſeed grown in his own land? Or does ſuch an author really think, that it is any more poſſible for ſmut to grow and taint any other corn than lamp-black; ſeeing it is as utterly diveſted of every vegetating quality?

I have ſown very ſmutty wheat, variouſly prepared, both with and without pickling, but never ſaw that it was attended with any bad conſequences ariſing from ſmut; and if I liked the ſeed otherwiſe I ſhould never be deterred from ſowing it, as it is clear to me, ſmut is not the occaſion of ſmut, it being as poſſible for a bit of dry powder, out of a rotten ſtick, to grow, or taint others, as ſmut.

Very often have I ſtarted the ſubject amongſt a club of farmers, who perhaps would be of as many opinions as there were people in the company, one aſſerting that ſteeping in ſalt water would prevent ſmut, another that it would not, a third vouches ſmut to grow ſmut, a fourth that it will not, and ſo on.

But now again, if we turn our eyes on the worms, we ſhall find it as clear as the noon day, where the pickles operate to prevent them from feeding upon or wounding the plant as above; we ſhall alſo find, that the more nauſeous or poiſonous the pickle is made, the more likely it is to be effectual in its purpoſe.

Wheat being put into a tub of pickle, the ſkin or bran is the firſt that imbibes the liquor, and the thick glutinous part thereof ſticks, clings, or gathers to the ſkin; and when the lime comes to be added, it incloſes, coats, or candies the grain, by which there remains a kind of a cruſt, which retains its nauſeous quality for a long time.

Now we are to conſider, that the ſkin or bran never grows or leaves the ground, but remains encircled with the root, which grows and ſpreads round it: this is a plain truth, which may be immediately proved by pulling up a root of ſtubble, and upon examination, it will be found, that the huſk is quite uniform, and nearly reſembling a blown egg, having a hole at each end, one to let out the root, and the other the top; and though the grain be buried deep, yet in a general way it will riſe to, or near the ſurface, and generally ſtands perpendicular.

The inſide or floury part of the wheat, being all fled, changed, or grown into root and branch, we might expect, that as the bran is left a dead lifeleſs body, it would putrefy, rot and fall to duſt; but, on the contrary, it will (if the ſtubble be not trod or moleſted) preſerve its perfect ſhape for ſeveral years.

This is eaſily accounted for, as it is the pickle which preſerves it, and the ſtronger the pickle, the longer it will maintain its ſtrength, both of ſmell, taſte, and texture; which ſtinking quality is perceptible to theſe delicate, deminutive creatures, whoſe ſenſe of ſmell is the main guide they are poſſeſſed of, to conduct them to their food; and I apprehend it would be impoſſible for one of theſe worms to live in, and feed upon a root of wheat, that contains this ſtinking pickled bran or huſk.

If a farmer do not dung his land, but enrich it by often plowing, as hinted in ſeveral parts of this work, it is a very great chance if he will have a grain of ſmut in his wheat.

This is alſo eaſily accounted for, and makes good my aſſertion of worms being the cauſe thereof, as another reaſon may help to evince, as follows.

A farmer of my acquaintance had a field that was always ſubject to ſmut. I examined the land, and found it had been much dunged, was very rich, and crouded with many ſorts of worms.

At this time indeed I was not acquainted with the pickle that will prevent it; and he had uſed the ſalt and water pickles to little purpoſe.

I therefore adviſed him to plow his field every month in the year, both winter and ſummer, when under fallow, which he did, and ſoon cleared it of vermin. The crows and birds of all ſorts, followed the plow, and picked up every inſect they could find.

The plow coming ſo often in a place diſturbs and breaks up their neſts or dens, ſo that they are prevented from breeding, and the old ones being expoſed to the fowls of the air, their race is ſoon extinct.

It is well known to moſt farmers, that red worms are moſt predominate in freſh or new land, (that is) ſuch as has lain a long time in graſs, which has given time for theſe inhabitants of the earth to breed; but upon the ground being turned, and the graſs which uſed to be their food being deſtroyed, and corn ſubſtituted in its place, they feed greedily upon it, and deſtroy many a good crop of corn.

Upon old going land they are ſeldom found, or at leaſt, ſo thin as not to do much miſchief. And how can this be accounted for, otherwiſe than that, as long as the land lieth in graſs, the worms can breed and feed unmoleſted; but when diſturbed, they meet with the above conſequences of being deſtroyed by the feathered creation.

This again ſhews the value of tillage, and how aſſiduous and active every one ought to be to promote it.

I hope the above reaſons are ſufficient to ſhew, that worms are the cauſe of ſmut, and that ſallow, and proper pickle, will prevent it. (See pickle.)

CHAP. II.

Nature of the SOIL, and Price of the LAND, with many other intereſting Subjects, neceſſary for a FARMER to know through ENGLAND, IRELAND, SCOTLAND, and WALES.

I THOUGHT it might not be diſagreeable to my reader to give him an idea of the different ſort of land, rent, manure, management, &c. in different parts of England, Ireland, Scotland, and Wales, which by comparing one part with another, may both be uſeful and amuſing to him. I ſhall begin in Ireland, as my memorandum-book takes its riſe from thence.

From Dublin to Drogheda, in Fingale, near the ſea ſide, the land is a ſtrong clay ſoil, conſequently good wheat land, and in general new land, (that is) ſuch as has lain a long time in graſs, which has given time for theſe inhabitants of the earth to breed; but upon the ground being turned, and the graſs which uſed to be their food being deſtroyed, and corn ſubſtituted in its place, they feed greedily upon it, and deſtroy many a good crop of corn.

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From Dublin to Drogheda, in Fingale, near the ſea ſide, the land is a ſtrong clay ſoil, conſequently good wheat land, and in general as clear from ſmut as moſt countries, which I impute to the farmers tilling better than in ſome other places, and alſo manuring with ſhort rotten Dublin dung and lime; but notwithſtanding, I have ſeen a very ſmutty piece of wheat within five miles of Dublin.

In this country, cut, or by ſome called red worms, (which deſtroy green corn) are very little known.

Land lets at about eighteen ſhillings an Iriſh acre, at ſeven yards to the perch.

From Kells acroſs the country to Trim, there is a great deal of ſmutty wheat; and I have ſeen many crops both of oats, barley, and wheat, deſtroyed when in graſs corn with red worms.

The land in this country is very rich corn ſoil; and in the year 1767, it let in a general way for about twenty-one ſhillings an Iriſh acre, or fourteen ſhillings for an Engliſh one.

From Trim to Longford and Mullingar, there is a great deal of ſmutty wheat; and that, as well as other green corn, is damaged by red worms. The land is good ſtrong deep wheat ſoil, and lets for about twenty-three ſhillings an Iriſh acre.

From Mullingar to Ballymahan, and Laneſborough, the land is not ſo good, and lets only for about fifteen ſhillings an Iriſh acre. They do not ſow much wheat, neither did I ever ſee any ſmutty, but was told they have a little ſometimes; neither are they much troubled with red worms.

From Laneſborough to Roſcommon, Elphin, Boyle, Caſtlerea, Ballinaſloe, and Loughrea, the land is very good, lets in a general way, for about twenty-five ſhillings or twenty-ſix ſhillings an Iriſh acre. It is a deep loomy ſoil; at about three feet deep is a rich limeſtone gravel, which they raiſe, and lay on as manure.

They make little dung, as they ſeldom houſe their cattle. This country may be a circumference of a hundred miles, and, I believe, there is not a ſpot in our king's dominions, of the ſize, which is clearer from black or ſmutty wheat and red worms, than this; which may perhaps be owing to their making little uſe of dung, as it cannot be by good tillage, they being great ſlovens in huſbandry, except a few gentlemen here and there; indeed their land is ſo good, that it makes them idle, for turn it up in any faſhion, and corn muſt grow.

In the Queen's county, about Portarlington, Tullamore, Muntrath, and Maryborough, the land is a light corn ſoil, of an inferior value, lets for about twelve ſhillings an Iriſh acre. I have ſeen here a great deal of ſmutty wheat, alſo a great deal of corn deſtroyed by red worms.

In the county of Kildare, about Kildare, Naas, Newbridge, and Killculling, the land is light and ſandy in a general way, and kept much in tillage, lets at about fourteen ſhillings an acre. In this country they till pretty well, they have ſometimes ſmutty wheat, but ſeldom troubled with red worms, except when they break up a piece of freſh land.

The county of Carlow, the land is ſomething ſtronger than in the county of Kildare, and it in a general way holds ſo all the way to Kilkenny.

It lets for about eighteen ſhillings an acre. They have plenty of lime hereabouts, and in ſpots limeſtone gravel.

This country is not exempt from ſmutty wheat, and red worms; which deſtroy their green corn, though they grow as good wheat in this, as in any part of Ireland.

In Kilkenny there are very conſiderable flour-mills, which grind a great deal of

They make little dung, as they ſeldom houſe their cattle. This country may be a circumference of a hundred miles, and, I believe, there is not a ſpot in our king's dominions, of the ſize, which is clearer from black or ſmutty wheat and red worms, than this; which may perhaps be owing to their making little uſe of dung, as it cannot be by good tillage, they being great ſlovens in huſbandry, except a few gentlemen here and there; indeed their land is ſo good, that it makes them idle, for turn it up in any faſhion, and corn muſt grow.

In the Queen's county, about Portarlington, Tullamore, Muntrath, and Maryborough, the land is a light corn ſoil, of an inferior value, lets for about twelve ſhillings an Iriſh acre. I have ſeen here a great deal of ſmutty wheat, alſo a great deal of corn deſtroyed by red worms.

In the county of Kildare, about Kildare, Naas, Newbridge, and Killculling, the land is light and ſandy in a general way, and kept much in tillage, lets at about fourteen ſhillings an acre. In this country they till pretty well, they have ſometimes ſmutty wheat, but ſeldom troubled with red worms, except when they break up a piece of freſh land.

The county of Carlow, the land is ſomething ſtronger than in the county of Kildare, and it in a general way holds ſo all the way to Kilkenny.

It lets for about eighteen ſhillings an acre. They have plenty of lime hereabouts, and in ſpots limeſtone gravel.

This country is not exempt from ſmutty wheat, and red worms; which deſtroy their green corn, though they grow as good wheat in this, as in any part of Ireland.

In Kilkenny there are very conſiderable flour-mills, which grind a great deal of wheat, and ſend the flour to Dublin, though it is fifty Iriſh miles land carriage. Their miles, as well as land, are meaſured with ſeven yards to the perch.

What encourages farmers to carry their corn and flour ſo far by land to Dublin, is a bounty which they have paid them by the government, viz. a half-penny for every twenty ſtone of corn for every mile they carry it above ten from Dublin; but all within ten miles of Dublin, are exempted from the bounty.

Every eight ſtone of flour receives a bounty of two-pence for every five miles, except the laſt ten miles next Dublin.

There is very little inland navigation in Ireland, which makes this encouragement of land carriage of great moment to that city, in keeping down the markets; and it alſo encourages farmers to ſow more corn in the interior parts of the kingdom, which would otherwiſe be neglected; and certainly no country can be more proper for corn than every part of Ireland.

I know the kingdom well, and verily believe, there is not a ſpace of ten miles together in the whole kingdom, where there is not plenty of good manure, to be raiſed out of the ground at a ſmall expence.

The iſland in general abounds with limeſtone gravel, which is a ſort of rich blue ſoapy marl, intermixed with ſmall cobles or paving ſtones, but of a very rich limeſtone nature, and when thrown on the ground with the marl, they act alſo as a manure, as the weather tempers them, and makes them throw off a coat or cruſt, every year. It is amazing what tufts of ſweet graſs are to be ſeen near theſe ſtones.

Where limeſtone gravel fails, there is generally a greety ſand, which is a very rich manure; in other places white marl, which lies under bogs; and in moſt places of the kingdom, there is limeſtone and plenty of turf to burn it with; ſo that, in fact, Ireland is a very rich country in this reſpect.

Though the county of Wicklow is a mountainous country; yet there is ſome very good ſpots of land in it; but in reſpect to good tillage, we can ſay very little for it.

They chiefly pay their rent by fat calves and lambs, for which they are famous, and bring them the diſtance of forty or fifty miles from Dublin, viz. from Wicklow, Gorey, and about Caſtlebridge.

This county is a compound of various ſorts of land; in the hollows or valleys it is chiefly a good rich loomy corn ſoil, inclined to clay.

And on the hills it is ſandy, mixed with ſmall ſtones; and in ſome places you ſee white marble ſtones of a ſmall ſize. A great extent of mountain, covered with heath, or ling, is to be found here, and which is very improveable, both as to the nature of the ſoil, and cheapneſs of manure, as limeſtone is to be found in great plenty, and lime is very proper for this ſort of land; I have ſeen it work miracles on land of the like kind, of which I ſhall ſpeak more fully in its proper place.

Land (for this heathy mountain in its preſent ſtate, cannot be deemed as ſuch) lets, from Dublin till you come near Wicklow, for about twenty ſhillings an acre; but as you go farther of, it lowers to about ſixteen ſhillings an acre. I do not ſtrictly mean all the way from the very city of Dublin, becauſe it is to be expected, that land near ſuch a capital, ſo far as two or three miles, muſt be very dear, perhaps four or five pounds an acre.

The county of Waxford is a great corn country, and particularly in the barony of

Fort and Bargy, they grow a great deal of barley. The land is of a ſandy nature for about five inches deep, and under that a bed of clay; in other places, a red, hard, obdurate, ruſty bad earth, by ſome called ramel. In ſhort, a great part of the barony of Fort and Bargy, is much ſuch land as they have in ſeveral parts of Cheſhire.

At about five or ſix feet deep, in many places, there is both marl and limeſtone-gravel to be found, but they are little ſought after.

They make a great deal of uſe of lime and ſea-weed, particularly near the ſea-ſide.

In one particular ſpot in the barony of Bargy, they tell you, that every acre maintains a chriſtian, a horſe, a cow, a pig, and a dog. How true this may be I know not, but it is a common report in the adjoining nighbourhood; but be that as it will.

the place is extremely populous and well ſtocked, and the land as rich as it is poſſible to be made, and with no other manure than ſea-weed, which they make uſe of in great abundance, and which produces the greateſt crops of corn I ever ſaw.

The middling price of land is about fifteen ſhillings an acre. The farms are not ſo large in this as in many other counties in Ireland.

Here is a great deal of ſmutty wheat; but they are not much troubled with red worms.

The barony of Fort gentlemen are the moſt hoſpitable, diſintereſted, facetious ſet of people I ever met with.

They are a good neighbourhood, and live in unanimity, and joyouſly with each other; they keep a good table, which is always open to their friend or neighbour: one can ſcarce travel above a mile or two in this country, without falling in with a gentleman's houſe, the proprietor of which is worth from five to two thouſand pounds a year, and every gentleman is a farmer; what corn he does not uſe himſelf he ſells, therefore they are neither too little or too great; they are nowiſe flaſhy, but live within their fortune, and yet quite generous.

The common people are all Romans, like the reſt of the kingdom, but not ſo bigotted in their religion, and ſeem to be well attached to the preſent government. They talk Engliſh well, and alſo ſpeak Iriſh one to another, but their Iriſh differs ſomething from the reſt of the kingdom.

They call themſelves Strongbowyons; that is, they came over from England in Strongbows time, and ſettled in this barony, where their offspring has remained ever ſince.

This is a very plentiful cheap place to live in, and particularly for wild fowl and fiſh. Their wild fowl chiefly conſiſts of duck, teal, widgeon, barnacle, and winyard.

Widgeon and barnacle, though ſcarce eatable in any other part of the world, that I know of, are here the moſt delicious morſel I ever taſted, and remarkably fat. The winyard is a ſpecies of fowl peculiar to this place, I believe, for I never ſaw them elſewhere; they are not much unlike a widgeon, though ſomething ſmaller, but fatter, for if they be ſhot flying, they generally burſt in the fall, by being ſo immoderately fat.

Theſe three ſorts of fowl are nearly of one taſte, owing certainly to their feeding all upon one ſort of food, which is a ſort of ſea-weed peculiar to this coaſt, and which is thrown up, and left by the tide at high-water-mark, twice in twenty-four hours; ſo that they are regularly fed, which makes them reſort here in ſuch abundance.

They can only be killed at night; for all day, they either remain on the water, or on ſome ſmall iſlands, that are ſix or ſeven miles within the ſea.

At night the fowler is prepared with a long wide gun and a water dog; he places himſelf ſo as to command the length-wiſe of their train of meat: this he can eaſily do, as he ſees where the water has left it the tide before, which is in a long narrow ſtrip for ſeveral miles together; as ſoon as it is duſkiſh, the fowls come up in very great flocks to feed, ſo that they cover the ground as cloſe as they can ſtand; a fowler has nothing to do but to level his piece, and ſhoot into the lump; he needs only one ſhot to load his horſe home. It is almoſt incredible what a great number they will kill at a ſhot. They are generally ſold for four-pence or ſix pence a pair.

Kilkenny is about fifty-ſix miles from Dublin; the direct road to it is through a very fine country, viz. part of Kildare, Carlow, and part of Kilkenny; the towns you go through are Naas, Kilcullen, Timolin, Carlow, and Leighlenbridge.

This is the fineſt ride in Ireland, for ſo far together, as it is all an incloſed country, without interception of commons, or any waſte land; and fifty-ſix miles in Ireland is a long way, as they meaſure with ſeven yards to the perch.

But indeed there is not to be found ſo fine a ride for ſo far together in his Majeſty's dominions, as in Ireland; for if you begin behind Kells, which is to the north of Dublin, and go to Kilkenny, which is to the South of Dublin, you ride for about a hundred Iriſh miles through five counties, namely, the county of Meath, Dublin, Kildare, Carlow, and Kilkenny.

You have all the road, a good quickſet hedge at each ſide of you, and all an incloſed country; you do not go over an acre of

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You have all the road, a good quickſet hedge at each ſide of you, and all an incloſed country; you do not go over an acre of either bog, heath, mountain, common, or any ſort of waſte land; you are alſo accompanied part of the way, with fine rivers, and all the way with either gentlemens ſeats, or towns, at the end of every two or three miles.

The city of Kilkenny is famed for four rarities, air without fog, water without mud, coals without ſmoke, and the ſtreets paved with marble.

How this old tradition aroſe into proverb, I know not, but they can in ſtrictneſs only claim two of the four; which is the two laſt.

They have marble quarries near the town, from which they both build their houſes, and pave their ſtreets with, but neither the houſes or ſtreets cut any better figure, or ſcarce ſo good, as other good towns in Ireland; for every one knows that marble is a very rough ſtone, without great labour of poliſhing.

The Kilkenny coals do not in the leaſt ſmoke, for which reaſon they are made uſe of all over Ireland, to dry malt with, and in Kilkenny as common firing.

It is true, as they have no ſmoke, there is not ſo groſs an air, or heavy clouds over the city, as is over other great cities or towns, where the coals have a ſmoke, which aſcends to the clouds; but the air is not exempted from fog for all that, as there is no commanding the clouds, fogs, or miſts of other countries, but they will blow over it, juſt as the winds ſet.

Through the city runs a fine river, over which there are two new bridges, built of marble, juſt finiſhed; the old bridges were broken down with a great flood, about five years ago. The bottom of the river is gravel, therefore the water is for the moſt part clean, but I have ſeen it muddy more than once.

In the city, and near the river-ſide, ſtands a fine Gothic building, belonging to the Butler family, which was erected in Queen Anne's time, by the famous Duke of Ormond.

And about two miles up the river, ſtand the ruins of another of his buildings, which was ornamented about with a large plantation of aſh, which is ſtill growing and healthy, but very large.

The city Kilkenny is not very large, or by any means handſome or regular built; but it is rich, and populous, and carries on a good trade in the manufactory of blankets.

For about fifteen miles acroſs the country to Waterford, the land is mountainous, barren, and bad; a good deal of it covered with ling or heath. Rents at about ten ſhillings an acre, except in ſome rich valleys which is higher priced.

Waterford lies about twenty-four miles from Kilkenny; it is a town of a pretty ſmart trade, and really now deſerves to drop that odium that has formerly been caſt upon it, of very buſy, and nothing to do, like Waterford merchants: as they have now ſomething to do, both in the Newfoundland fiſhery, and exportation of beef, butter, and pork, in great abundance, they alſo manufacture a great deal of frize.

Waterford is not large, but a populous rich town, and improving every day.

The land in this country is not good; in general about two thirds is a mountainous, thin, weak land; and any good veins there are, are kept under dairies, ſo that agriculture is neglected, and the poor alſo in a ſtarving condition.

A great many men ſhip themſelves off from Waterford, to ſerve the ſeaſon in the Newfoundland fiſhery, for which they will get perhaps fifteen or ſixteen pounds wages for ſix or ſeven months.

Being great help to this neighbourhood, for they generally ſpend it in the winter half-year.

Land lets here at about twenty ſhillings an acre, ſuch as is fit for dairies, and lies in valleys, but a great deal of high land lets for about eight ſhillings an acre.

In about thirty or forty miles ride, viz. from Dorrow to Limerick, through moſt part of the country of Tipperary, the country is almoſt run wild, one would think, with ſheep and bullocks; for it is hard to ſee a corn-ſtack, or a plow at work.

It was in this county the White Boys have been ſo troubleſome. The land, in moſt parts, particularly Caſhel, Tipperary, Clonmel, and down from that to Limerick, is very fertile, would bring great crops of corn, but the great poſſeſſors of it are blind to every thing but bullocks and ſheep, ſo that agriculture and every ſort of trade is baniſhed; which makes a fine country look very naked, and its poor inhabitants meagre and ragged.

There is ſome of the richeſt land that ever I ſaw in all my travels in this county, and the county of Limerick, called the golden vein; and yet it cuts the pooreſt aſpect as to its poor inhabitants, owing to its being kept under ſtock.

The ſtaple of the land conſiſts of a deep loomy clay or corn ſoil, will bring either wheat or any other ſort of grain, without fallow, dung, or any other manure; in ſhort, it is rich beyond expreſſion.

Land lets here for thirty and thirty-five ſhillings an acre, great farms together.

As they ſeldom make uſe of dung, except for ſetting potatoes, they are little troubled with ſmutty wheat; but they are viſited with red worms ſometimes when they turn up freſh ground.

The graziers are gentlemen who eat and wear well, and drink plenty of punch and claret, an eaſy ſufficiency ſeems to dance among them; but the poor are miſerably ſo, and they are moſtly Roman Catholics, for there is ſcarce any poor in Ireland of any other religion; and I have often heard the poor ſay, that they believed there was a curſe entailed upon the Catholics of Ireland, and that it appeared in this particular.

In ſhort they are a very numerous body, that wade through a ſea of troubles. I think, if I had it in my power to enact two or three laws, I could make Ireland one of the ſtrongeſt and richeſt iſlands his Majeſty has, as its ſituation is good for trade both by ſea and land, the ſurface of the earth, by nature, is in general very rich, but where it is not, it is eaſily made ſo; for all over Ireland the interior parts of the earth abound with rich manures, ſuch as limeſtone-gravel, marl, and limeſtone.

The kingdom is alſo variegated with variety of loughs, rivulets, and bogs; ſo that there is no want of fire or water.

Likewiſe the kingdom is very populous, therefore muſt, with the above advantages, add both ſtrengh and riches, were they made uſeful members of ſociety, and all to ſtand by the Proteſtant cauſe.

The gravel-act, indeed, has done wonders in bringing over the rich; but nothing has yet tranſpired to change the poor Catholics; they are a ſet of poor deluded creatures, and it is a pity but an act would paſs (which might be eaſily pointed out) to relieve them.

Moſtly all over Ireland the fairs for cattle are very large; but particularly in Connaught: the fair of Ballinaſloe is incredibly ſo for wool, horned cattle, ſheep and horſes. I am credibly informed, that the cuſtoms amount to ſeven hundred pounds ſterling a year; which ſhews its immenſe value, as the toll for a ſcore of ſheep, perhaps worth thirty pounds, is only three-pence, and three-pence each for a cow, or any other cattle.

The poor generally ſow a little flax ſeed, which they buy from a ſort of petty merchant, at an extravagant price, perhaps for five or ſix ſhillings a Wincheſter peck, for which they get a years credit, till they ſpin it into thread, in conſideration of which they pay about two hundred per cent.

If they run in debt for half a peck or a peck of flax-ſeed, they give a note payable before the ſummer-aſſizes in the enſuing year; if they miſs payment they are ſure to be proceſſed at the aſſizes.

And here the merchant or creditor has another apothecary's profit, of about elevenpence to the ſhilling; for he will buy a blank proceſs for a penny, and fill it up himſelf; he charges for the proceſs an Engliſh ſhilling, which is thirteen-pence Iriſh, and perhaps the original dept will not be above two or three ſhillings.

If the creditor do not pay it before the aſſizes, he is decreed, which is eight ſhillings and four-pence expence. An honeſt man would abhor the oppreſſion.

It is generally Roman Catholics that are thoſe Jewiſh like merchants, for there are few Proteſtants in that trade, and there are none in Ireland more oppreſſive to Romans, than Romans themſelves.

The county of Cork is very large, ſo conſequently conſiſts of various ſorts of ſoil, but the major part is mountainous, and lets perhaps at about eight ſhillings an acre; but in the valleys it is high priced, perhaps twenty ſhillings an acre.

The ſavourite manure of Ireland, viz. limeſtone gravel, is ſcarce to be found here; but they have plenty of limeſtone, which they burn with whins, and comes pretty cheap; it is common to ſee a lime-kiln that will contain four or five hundred buſhels of lime.

Though we cannot ſay much for the neat huſbandry of theſe farmers, yet I cannot paſs by them without taking notice of a piece of invention, I think very praiſe-worthy, and intereſting to every one ſituated as they are.

I obſerved above, that they have plenty of limeſtone, which they make into lime by burning it with whins, other firing being ſcarce; and as they make uſe of a great deal of lime, they conſume great quantities of this ſort of fuel, therefore it requires contrivance to keep up a proper fund for that purpoſe.

This is done by raiſing large ditches for fence; and as their land lies high, and the country ſcarce of ſhelter, being thin of woods or hedges, they ſow each ſide of the bank, which they raiſe by making the ditch, with whin-ſeed; and when the whins are ready to cut for fuel at three years old, they cut only one ſide of the ditch, and leave the other for ſhelter and fence till the cut ſide grows to fulfil that office, then they cut the oldeſt ſide for fuel; ſo they go on alternately, cutting the oldeſt ſide from generation to generation.

And thus they are ſupplied with fuel, fence, and ſhelter, from the ſame ditch, which perhaps takes up not more ground than two yards, though by meaſuring round the top of the bank, we ſhall find a ſurface for the whins to grow on of near four yards.

How many places are there in England, Scotland, and Wales, that are ſcarce both of fire, fence, and ſhelter, that would be glad of whins to burn inſtead of ſtraw and cow-dung ? And how eaſy and cheap would it be for them to raiſe theſe three valuable articles of fire, fence, and ſhelter, by the above method ?

But though this ſimple method is very praiſe-worthy ; yet it falls much ſhort of the great œconomy they practice, by breaking limeſtone to powder, and applying it as manure for land inſtead of lime.

It anſwers the ſame end, comes much cheaper, and laſts longer than lime ; it anſwers for any ſort of land, but beſt for ſtrong, as its angular points cuts through and opens it, and the weather ſoftens the little ſtones, ſo that it keeps peeling and diſcharging a cruſt, which acts as a perpetual manure till the laſt bit be waſted.

I happened in company with a gentleman farmer who firſt tried it, and he aſſured me that it anſwered full as well as lime, and that it did not coſt half ſo much breaking.

I viewed a piece of graſs ground covered with this bruiſed limeſtone, which aſtoniſhed me with ſurpriſe, at ſeeing ſuch a fine verdure in the middle of a very barren field, moſtly grown over with heath; but as far as the limeſtone had been laid on, it had quite changed the nature of the ſoil, killed the heath, and ſubſtituted honeyſuckles and wild clover in its place.

Several more gentlemen about Mallow were following this practice, and doubt not but it will in time be univerſally uſed there, inſtead of burning lime, particularly where firing comes high.

I am ſatisfied that limeſtone bruiſed to powder and laid on graſs ground, is better than lime or even any other manure, particularly if the ground be ſtrong, coarſe, and ſour, or inclined to heath or ling; and it is far the beſt manure I know of for ſuppreſſing moſs.

A man may break a chaldron or four quarters in three days, or in leſs, if the ſtone be of a ſoft nature.

The ſmaller it is broke, the ſooner it will take effect; none ought to be left larger than a haſle nut.

A great improvement might be made by a horſe-mill, to grind limeſtone in, in the nature of a bark-mill or an oil-mill.

The city of Cork is a very rich flouriſhing place, and drives on a conſiderable trade in the exportation of beef, pork, and butter.

It is alſo improving very much in its buildings; it is a ready market for a farmer to vend the product of his land in. It is well ſituated for trade; and ſhould there ever be a union between England and Ireland, it would ſoon be a far richer city than Dublin.

The upper part of the county of Sligo, Mayo, and Galway, leading to the weſtern ſea, the land is only good in ſpots; in all theſe counties there is a great deal of gravelly, rocky, heathy, ſhallow land, intermixed with bogs; however in the worſt of it there is every neceſſary material for improvement.

In theſe counties land varies much in price, according to its value, but, upon a medium, it may be rated at about twelve ſhillings an acre.

There is no part in Ireland where land varies ſo much as in the county of Leitrim.

In order to give my reader an idea of it, I ſhall juſt mention, that in the year 1759, I let about five hundred acres of land, in four different farms, all lying within one ring fence, one for ſix ſhillings, another for twelve ſhillings, another for eighteen ſhillings, and another for a guinea, being one pound two ſhillings and nine-pence Iriſh currency, per acre.

And indeed the land varies accordingly through the county, in ſome places fine rich limeſtone ſoil, in others ſtrong cold clay ſoil, all grown over with ruſhes, and in others thin gravel ſoil, grown over with heath.

But this county, like moſt others in Ireland, abounds with all ſorts of manure for improvement, ſuch as limeſtone gravel, white rich marl, a fine rich ſand mixed with ſhells, and limeſtone in abundance, together with turf in plenty to burn it with.

I have had extreme good wheat and corn of all ſorts here. I ſeldom ſee them troubled with ſmutty wheat, or red worms, which is perhaps owing to their ſweet method of manuring.

Their method of farming is very bad, and their way of yoking horſes as barbarous; they draw their plows and harrows with their horſes tied by their tails. I have very often ſeen a mare and her offspring, viz. a three years old, two years old, and one year old colts, plowing all a-breaſt, two going upon the plowed land and two upon the unplowed land with neither hemp or iron about them; their whole gearing conſiſted of a withy, or twiſted ſtick, tied to the hair of each horſe's tail, and ſo through a hole made in a long pole or ſtick, which reached the breadth of the four horſes, and ſerved by the way of a ſwingle-tree, which pole is faſtened in the middle by another withy to a hole bored in the end of the plow-beam.

The man that drives, or more properly ſpeaking, leads the horſes, has a long ſtick to which each horſes head is tied with a withy halter; the man by holding the ſtick has all the horſes at his command; he walks backwards before the horſes heads all the day; when he wants them to follow him, he pricks them with a long ſtick he has in the other hand, in the end of which a ſharp nail is fixed. Thus we ſee them equipt in the plow way.

They harrow in the ſame wooden manner, having a withy faſtened to the hair of each horſe's tail, and to a harrow which each horſe drags; the harrow teeth are made of whin ſtalks inſtead of iron, ſo that in fact there is neither hemp, leather, or iron, except the coulter and ſock, about their teams; and yet I have ſeen as good corn grow there as I ever ſaw in England, which is all owing to the natural goodneſs of their land, and maiden manure they raiſe out of the interior parts of the earth.

Was no better plowing or management uſed in England, we ſhould grow nothing but weeds inſtead of corn.

The greateſt misfortune which generally attends their crops, is that of their being too rank, ſo that the corn is ſmall and lean, as the richneſs of the ſoil, and the ſoftneſs of the climate, together with the double portion of ſeed they throw into the ground, forces it too much into ſtraw.

But as I have deſcribed their barbarous method of drawing their horſes by their tails, I muſt alſo do juſtice to the legiſlator, by telling my reader, that they have made a law to put a ſtop to this cruelty of drawing the horſes by the tail, which has in a great meaſure contracted it to the moſt diſtant or remoteſt parts of the country at preſent, but formerly it was general all over the kingdom.

The counties of Monaghan, Tyrone, Londonderry, Fermanagh, Donegal, Down, Caven, Armagh, and Antrim, are in the north of Ireland.

Moſt of theſe counties flouriſh much in the manufacturing of linen cloth, particularly towards the ſea-coaſt, oppoſite Scotland.

The moſt conſiderable manufacturies begin at Dundalk, and ſo on to Newry, Loughbruckland, Hillſborough, Liſburn, Bellfaſt, Langan, and Armagh: through all theſe places the land is very good, except ſome mountains interſperſed here and there.

The lands here are in general better incloſed, and divided into ſmaller farms, than in the reſt of Ireland, which is a great bleſſing to the inhabitants, and adds much to the beauty and richneſs of the country; becauſe when a man is not over-burdened with land, he can, as it were, make his farm into a garden, by attending to, and beautifying every part of it; and he certainly can make one acre, well cultivated, produce as much as five in its wild barren ſtate.

What pity it is that the worthy gentlemen of Ireland will not open their eyes to ſuch plain facts, and curtail theſe unmerciful farms, that ruin the beſt part of this fine, healthy, and eaſy to be made, a very rich kingdom.

The land within the ride of the laſt mentioned towns, lets at about eighteen ſhillings an acre. It is in general, ſtrong wheat ſoil; but however their cheif crops are oats, beans, and potatoes.

Here are many little bogs lying between the hills, under which is a good white marl; there is alſo plenty of limeſtone, and lime is often uſed as manure.

The right honourable lord chief baron Foſter has an eſtate at Colon, in the county of Louth, which he has improved by lime to an amazing degree, to the amount of about two thouſand acres which formerly let at half a crown an acre, to that pitch, that it now lets from eighteen to twenty-three ſhillings an acre; an immenſe riſe indeed: and what is more, the firſt crop generally paid the expence of liming, though he had the limeſtone to carry four miles, which is a diſtance that ſeldom happens in Ireland.

The coals that burn it he gets from England. He told me that he can lime well for four pounds an acre, at ſeven yards to the perch; and he lets the land the firſt year to break up to ſet potatoes in, at four pounds an acre, the next year he lets the ſame land where the potatoes grew, to ſow oats in, at three pounds an acre, and the third year to ſow again with oats, at fifty ſhillings an acre.

In all this, he is at no other expence, but juſt laying the lime on.

Sometimes inſtead of oats after potatoes, they ſow flax-ſeed or bare; but they may ſow what they will, as they are ſure of good crops.

The lime generally lies on the ſod about a year before it is broke up, and as it lies pretty thick, it preſſes down any graſs, heath, or other rubbiſh that may be on the land, and turns it to dung, by which means it ferments and unites the lime to the ſod and particles of earth, which otherwiſe would not incorporate and unite ſo kindly.

The original ſtate of this land was a heathy wild mountain, without hedges, ditch, tree, or buſh of any ſort, and had as wild a look as the highlands of Scotland.

The ſtaple of the ground is inclined to a clay gravel of a reddiſh caſt, intermixed with thin ſlaty gritty ſtones.

The ſituation of the ground is not to be called very high, nor is it level, but in waving hills, and takes a good pull for a carriage to attain the top.

They generally plow in all this country with four horſes, two before two, except in breaking up graſs ground, then they generally uſe ſix.

They grow a great deal of oats and round eared barley, in the counties of Louth and Down, till you come to Donaghadee.

Farther north towards the county of Antrim, Donegal, and Londonderry, the land lowers in its value, having a great deal of ſtrong, cold, ſpewy, ruſhy, and heathy land interſperſed all over the country; and the country is alſo uneven, riſing very much into hills, ſometimes to a diſagreeable height.

They grow little elſe here but potatoes, flax, and oats, the oats moſtly of the black ſort; not but the land will grow both wheat and beans, as I have ſeen good of both raiſed by gentlemen, but the farmers do not care to venture out of their old track of huſbandry.

The land here varies much in rent; in good ſpots and near towns, it lets for about twenty ſhillings an acre; but in the high and more open country, it does not let perhaps for more than ten ſhillings an acre.

CHAP. III.

The Price of LABOUR and VICTUALS in the ſeveral Counties of IRELAND, as they Rated in 1769, in Order to give an Idea of the different State of the Two Kingdoms in theſe Particulars.

DUBLIN, beef by the quarter at two-pence half-penny a pound, from Michaelmas to Chriſtmas, but is very dear in ſpring, which is chiefly owing to the ſcarceneſs of winter feeding, as the people of Ireland ſow very little turnip-ſeed.

Good beef in April perhaps will give four-pence a pound by the quarter. Mutton keeps at a much more equal price; for as their land is good, and their winters moderate, fat ſheep will keep their fleſh through the winter, ſo that the markets ſeldom vary above a penny a pound; it ſells at Michaelmas at two-pence half-penny a pound, and in ſpring at three-pence half-penny a pound. Pork and bacon bears an equal moderate price, which is owing to plenty of potatoes for feed, for they ſeldom feed ſwine with beans.

Pork at two-pence and two-pence half-penny a pound; bacon at three-pence half-penny a pound.

Veal in winter is five-pence and ſix-pence a pound, but in May and June at two-pence a pound.

There is as good and as bad veal in Dublin as in any part of the world. Calves ſell here from two ſhillings to four pounds a piece.

All the dairies near Dublin ſell their calves as ſoon as they drop for two or three ſhillings a piece, which is a barbarous cuſtom: but the county of Wicklow which chiefly ſupplies Dublin market, keep their calves three or four months old; nay, I am told, ſome will keep them five months old. In ſhort, they make very good veal, and they are alſo famous for early lambs in this county, by which Dublin market is ſupplied.

In Dublin, a good gooſe for two ſhillings, a good fowl for eight-pence, rabbets, are dear, as there are few warrens in the kingdom, the land being too good for them, ſo that there are ſcarce any to be got, except tame rabbets bred in houſes.

Freſh butter in Dublin is high in winter, eight-pence and ten-pence a pound, and in ſummer at five-pence and ſix-pence a pound.

Wheat this year from twenty to thirty-two ſhillings a barrel, or four buſhels Wincheſter meaſure, in the ſame market the ſame day.

The quality of wheat varies much, according to its cleanneſs or dryneſs. They are very often obliged to dry it on malt-kilns.

Engliſh wheat generally bears a higher price than the beſt Iriſh by two ſhillings the barrel in the ſame market.

They import from England a great deal of malt, which is ſuperior to the Iriſh made malt by three ſhillings a barrel. In ſhort, the Iriſh maltſter cannot be content with moderate profit, for if he cannot profit other ways, he will have it in weight or meaſure.

Formerly they uſed to ſell by meaſure, then they grew it out ſo much, that it had no ſtrength in it; and as they never ſift it, but ſell cums and all together, it was ſo long one might almoſt fill the buſhel with a dung fork.

The legiſlator ſaw the cheat, ſo made an act to ſell by weight, and now the extream is full as much the other way, for they do not above half grow it, ſo that the thick end of each grain does not turn to malt, but dries and becomes a hard flinty ſubſtance, which weighs heavy in the buſhel, but yields no ſpirit to ſtrengthen the ale. Thus the publick are impoſed upon by the maltſters being too avaricious, and not doing the fair thing.

Malt ſells at about ſixteen ſhillings a barrel.

Oats being ſo general a crop in Ireland, one might expect them to be very cheap; but however, though a great many are grown, there is alſo a great conſumption, as all the poor in general eat no ſort of bread except that made of oats; and the time of the year when potatoes are out of ſeaſon, their whole living is oat-bread and butter-milk; but ſo long as potatoes are good they ſupply the place of bread; therefore oats bare a better price than could be expected, being ſo general a crop.

Potatoes in the year 1759, was a failing crop, which made oats and oat-meal very dear.

Good oats ſold this year in the interior parts of the kingdom at fourteen and fifteen ſhillings a barrel, which is at the rate of thirty ſhillings a quarter. The year after, being a good potatoe year, I bought good oats at five ſhillings a barrel. This ſhews the great dependence there is upon potatoes.

In the year 1769, good oats ſold at twelve ſhillings a barrel in Dublin, grey peaſe at eighteen ſhillings a barrel, and a large field bean at twenty ſhillings a barrel.

The round black magazine field bean ſcarce any to be got, being little ſowed in Ireland. White boiling peaſe at thirty ſhillings a barrel. Very little rye is made uſe of.

All ſorts of artificial graſs ſeeds are imported hither from England.

Bricklayers, maſons, and houſe carpenters or joiners, are two ſhillings a day. Labourers in Dublin a ſhilling a day; but farmers labourers in the country round Dublin, is eight pence in winter without meat, and a ſhilling in ſummer.

In the counties of Waxford, Killdare, Carlow, Weſtmeath, and Queen's Country labourers are ſix-pence a day in winter, and eight pence in ſummer, without meat. Beef and mutton two-pence and two pence half-penny per pound in the cheapeſt ſeaſon of the year.

Moſt Country gentlemen kill their own meat, and the country labourers and farmers ſeldom eat any; ſo that the chief conſumption is by the tradeſmen and ſhopkeepers in market towns.

Eggs and fowls are cheap. Good chickens at three half-pence and two-pence a piece. Lean geeſe at eight-pence a piece, lean turkeys at ten-pence a piece, and a roaſting pig for a ſhilling or fifteen-pence, eggs at ſeven or eight a penny.

In the counties of Kilkenny, Cork, Kerry, Tipperary, Limerick, Waterford, Galway, Leitrim, Mayo, Roſcommon, Sligo, Clare, Londonderry, Tyrone, and Farmanagh, being diſtant from Dublin, and partly deſtiutte of trade, but ſubſiſting chiefly by grazing, the living and labour is cheap, and partly bears an equal rate in all theſe counties.

Beef and mutton at the cheapeſt ſeaſon from three half-pence or two-pence a pound, lean geeſe at four-pence a piece, lean turkeys at ſix-pence a piece, chickens at a penny a piece, eggs at ten a penny, roaſting pigs at ſix-pence a piece, butter at three-pence a pound. Day labourers at four-pence a day in winter, and ſix-pence in ſummer, no meat, plough-wrights a ſhilling a day and meat, houſe-carpenters or joiners two ſhillings a day, no meat, maſons two ſhillings a day, no meat.

The reader is to take notice, that in ſpeaking of labourers, I ſpeak in general terms, ſuch as are employed by gentlemen and farmers all the year round; but in market and great towns, at times, particularly in March and April, when the ſhop-keepers and tradeſmen are ſetting their potatoes, labourers are perhaps ſix-pence or eight-pence a day and meat. However this is a matter of little conſequence in the farming way, but I thought proper to take notice of it, leſt ſome unthinking readers, not making proper allowances for theſe things, might think my account erroneous.

Corn is at a more equal price, ſince a bounty was given by the government for land carriage, ſo that there is not above four or five per cent. difference between the country and Dublin prices; and when a miſs year in the potatoe crop happens, Dublin is the loweſt market, they being obliged to ſend corn and meal into the country to ſupply the deficiency of potatoes.

The counties of Downe, Louth, Donegal, and Armagh, being manufacturing countries, labour and victuals bear a higher price than in the grazing countries. Beef and mutton at two-pence half-penny and three-pence a pound, geeſe at eight-pence a piece lean, turkeys at ten-pence or a ſhilling a piece, chickens at two-pence or three-pence a piece, pork two pence a pound, a roaſting pig a ſhilling, oat-meal at ſixteen pence a peck, beſt wheat at twenty-eight ſhillings a barrel, malt fourteen ſhillings a barrel.

Labourers at ſix-pence a day in winter, without meat, and eight pence in ſummer, without meat; houſe carpenters two ſhillings a day, and maſons two ſhillings a day.

A farmer's man ſervant ſix pounds a year, a ſtrong boy three pounds a year, a woman ſervant three pounds a year, a luſty girl thirty ſhilling a year.

There is little difference in the wages of yearly ſervants in any part of the kingdom.

The gentlemen of Ireland give good encouragement to Engliſh ſervants and ſtewards, with good characters.

Ireland is two hundred and ſeventy-five miles long, one hundred and fifty-nine miles wide, and fourteen hundred miles in circumference.

Their land and mile meaſure is by ſeven yards to the perch.

Their weight and meaſure are all Wincheſter.

As to the currency of the Engliſh coin, every ſhilling goes for thirteen-pence, ſo conſequently one guinea is worth one pound two ſhillings and nine-pence in Ireland.

CHAP. IV.

A ſhort Account of the Lands, Labour, and Price of Victuals in SCOTLAND, from PORT PATRICK to BERWICK.

THOUGH I cannot ſay ſo much for the fertility, richneſs, and beauty of Scotland, as I have done for Ireland, yet ſhe is not without her perfections, and her land is really very improveable.

Port Patrick is the neareſt ſea-port from the north of Ireland, and lies oppoſite Donaghadee, acroſs a ſea of twenty-ſeven miles broad. It is a poor little town of no trade, ſubſiſts chiefly by travellers, and the packet boats paſſing and repaſſing.

There is little agriculture carried on here; the land round it is very bad, inclined to mountain and heath, great tracts of it lying in its wild original ſtate.

Their method of agriculture and improvement is very ruſtick and bad; they have no notion of ſowing any thing but black oats, though they have plenty of limeſtone, and can burn lime at a moderate expence, which would improve their land, ſo that it would produce wheat or any other valuable crop; for though the land is mountainous, yet it is of a good kind, and depth enough of ſoil to cultivate any crop in.

Land lets here for various prices, according to its ſituation and goodneſs, and indeed it is very hard to aſcertain the real price of land in Scotland, becauſe in a hollow or valley, perhaps a farm may let at twenty ſhillings an acre, and on the highland, not for four-pence an acre. I may properly divide them into three denominations, viz.

The firſt is good land, lying in valleys, or near great towns, or river ſides, lets at about twenty ſhillings an acre of eight yards to the perch.

The ſecond is ſuch as lies high, and is plowing or green graſſing ground, without heath or ling; ſuch lets at about fourteen ſhillings an acre.

The third is high mountain, all covered with heath or ling, which bears its original aſpect, perhaps ever ſince Great-Britain was inhabited; and though it has the appearance of commons, yet are moſtly private property, and lets in great tracts together to rear young cattle on, perhaps at not more than two-pence an acre.

At Stranraen the land is pretty good near the towns, lets for about ſixteen ſhillings an acre, and indeed it bears that price moſtly through Gallaway to Dumfrees and Carliſle, particularly near the ſea ſide.

The great north road to Ireland lying through this country, makes things wear a better face than in ſome other parts, and particularly within theſe few years, ſince the road was improved by the army.

I paſſed this road twenty-five years ago, and again laſt year, and was ſurpriſed to ſee the great change of things for the better. Improvements of every ſort get on apace, agriculture in particular flouriſhes beyond deſcription.

The Inns on this road are alſo tolerable good. Wages and victuals riſe in proportion to other improvements. There is no greater ſign of an improving country than the riſe of labour and eatables.

In the county of Dumfrees there is ſome ſtrong land that grows good wheat, but I have ſeen ſome much ſpoiled by ſmut.

About Dumfrees a farmer's labourer has ſix-pence a day in winter, and eight-pence in ſummer, except in harveſt, which is a ſhilling a day without meat, men ſervants at five or ſix pounds a year, women ſervants fifty ſhillings, and boys and girls in proportion to their age and abilities.

Beef and mutton at the loweſt ſeaſon of the year, three half-pence and two-pence a pound, fowls and eggs cheap.

From Stranraen to within five or ſix miles of Air, the land is very barren and mountainous, generally covered with heath, and ſtocked with ſmall black horned cattle of the dwarf kind.

The land here lets by bulk, perhaps not at above three or four pence an acre, except in ſpots, where there is a ſort of bad huſbandry, of raiſing a few black oats, which perhaps may let for eight ſhillings an acre. Labour here is below par, having nothing to do but ſleep. Oat-meal and milk is their chief living.

Round Air, and near Doonſide, there is ſome good land, which lets at fourteen or ſixteen ſhillings an acre in the farming way, at eight yards to the perch.

Near the ſea ſide the land is ſandy, but a few miles within the country it is ſtrong clay, and in places loomy ſand. In ſhort, land is a great deal of it naturally good in Airſhire, and continues ſo to Glaſgow.

Labourers at ſix-pence a day in winter and eight pence in ſummer; but near and about Glaſgow, wages riſe two-pence a day. Men ſervants ſix pounds a year, boys and girls accordingly in proportion to their age and ſtrength.

They import to Air and Glaſgow much corn from Ireland, particularly oats and oat-meal. There is a great conſumption here of thoſe articles, as the common people's living is chiefly oat-bread and gruel-porridge or ſoup.

The fleſh meat in theſe markets is poor, and not wanting in price. Beef and mutton three-pence a pound, and ſometimes four-pence; good veal very dear and very ſcarce. The moſt plentiful and beſt meat is kid and lamb in the ſeaſon.

About Glaſgow and Stirling, and ſo down the north ſide of the river Frith, the land is very good for many miles together, and capable of growing any ſort of corn with good management; and to give the gentlemen of this country their due, they are improving their land equal, if not ſuperior to any part of England; that is, I mean they have made the quickeſt progreſs ſince they began to improve, and particularly by incloſing and planting fir timber, of which here are great plantations.

They make uſe of lime as manure, of which they have great plenty, and not ever dear.

But before I leave this country, I ſhall take notice of a piece of huſbandry which I believe is particular to this place, as I never ſaw it practiſed elſewhere, viz.

When they have a piece of ground wore out by tillage, ſo that it will not bring any more crops without manure, they trench it with a ſpade, ſometimes two, and ſometimes three ſpit deep; that is, they begin and dig three ſpade-grafts deep, and make a trench, into the bottom of which they throw the top ſod, and over that the ſecond ſod or ſpade-graft, and alſo the third, ſo that the bottom ſpade-graft, taken up at three feet deep, becomes the upper ſtratum for corn to grow in.

If the farmer hires his land to be trenched by the acre, the price is ſet without varying, and is as follows.

For trenching two ſpit or ſpade-graft deep, (without ſhovelling the looſe mould out after the ſpit) forty ſhillings an acre; for digging two ſpit, and ſhovelling the looſe, forty-five ſhillings an acre; for digging three ſpit, without ſhovelling, fifty-five ſhillings an acre; for digging three ſpit deep, and ſhovelling, three pounds an acre.

They find by experience that it is better for the land, and they are more ſure of a crop of any ſort after trenching, than if they lay on lime or any other manure to the amount of three pounds an acre; and what is more ſurpriſing, this is practiſed in a country where manure is plenty and eaſy to be got.

After ſuch trenching, the land will bring five or ſix good crops before it need be trenched again, and it will grow corn from generation to generation, if it be again trenched to revive its exhauſted ſpirits at proper periods.

I know ſome of my readers, who only caſt a curſory view upon things, may think my account fabulous, but I aſſure them that what I have ſaid is abſolutely fact; for I ſaw the whole work performed with my own eyes; I ſaw alſo the crops grow, and I never ſaw better wheat, oats, and barley in my life; and I took particular notice of ſuch trenched corn that happened in town-fields, and found that ridges a long ſide which were dunged and fallowed, were not ſo good by much, nor ſo clear of weeds; that both the ear, grain, and ſtraw was ſmaller.

When we conſider the thing attentively, it is eaſily accounted for, particularly if the land be of a proper ſort, viz. If loomy clay or loomy ſand, or ſand itſelf; becauſe if land be ever ſo poor, it is generally covered with a coat of ſome ſort, either ſtubble, weeds, or graſs, which being thrown into the bottom of a trench, and covered with earth two or three feet thick, it ferments, rots, and evaporates its volatile ſpirits, which penetrate through every particle of the body of earth over it.

In ſhort the whole body thus mixed, muſt be in a ſtate of ferment, beſides the weeds and rubbiſh being buried too deep for vegitation, rots and becomes manure. Any reaſonable man will allow that there muſt be a wide difference between the root of a weed growing and partaking of the ſtrength of the ground, and the ſame root being rotted to feed the ground.

Suppoſe a thiſtle, for inſtance, takes up ſix inches of ground, it is natural to ſuppoſe it feeds upon what nouriſhment lies within its reach, but when the ſaid thiſtle is turned under ground and ſtopped of vegitation, it rots, and not only returns to its mother earth what ſhe formerly gave it, but the ground it covered is at liberty to be fulfilled by a plant of corn.

But ſhould the farmer believe he gains theſe advantages by common plowing, he is miſtaken, as that can neither ſtop vegitation, or rot the weeds ſo quickly, as burying them deep in the earth, becauſe if the plow leaves any part of the root unturned up, it gathers ſtrength and grows again, and ſo will what is turned up, ſhould the weather prove wet.

We ſee hard it is to make a good fallow in a wet ſummer; there is nothing but the ſcorching hot ſun can deſtroy graſs and weed in the common method of farming, and this can never be ſo effectual as to bury them all together, it being almoſt impoſſible to expoſe every root to the ſun, by plowing and harrowing, but ſome will be covered by a little earth, and retain its growing quality.

And ſuppoſe every ſort of rubbiſh was ſhaken over the ground, ſo that the ſun would kill it, yet whilſt it is undergoing this operation, we looſe the main ſubſtance of the manure; for inſtead of every ſtone weight of green weeds when dried to powder, perhaps we ſhould not have a pound, the remainder being exhaled into the clouds by the heat of the ſun. But as I have given a lecture of this ſort more fully in another place, I ſhall drop it here, with begging the farmer will diveſt himſelf of all partiality, and open his eyes to plain reaſon, find it where he will.

Men by trenching make a ſhilling a day, and if good workmen more.

About Edinburgh land is very good, and particularly in Eaſt Lowdon; here they are great corn farmers, they make uſe of a great deal of lime, and ſuch as lies near the ſea, manure with ſea weeds.

I have ſeen very good crops of wheat and barley here. The land is a loomy ſand, and lets for about twenty ſhillings an acre. Their farms run from fifty to three hundred pounds a year.

A good ſervant man will get ſeven or eight pounds a year, a good ſervant woman three pounds a year, a ſtrong boy three pounds, and a ſtrong girl two pounds a year; a labourer in winter eight-pence, and in ſummer ten-pence a day, without meat.

Markets for meat are much better in Edinburgh than Glaſgow. Beef and mutton at the cheapeſt ſeaſon two-pence and two-pence half-penny a pound, and in ſpring at three-pence half-penny a pound. They are ſcarce of winter feeding, which makes their ſpring meat only poor.

They raiſe a few turnips in ſpots, but nothing to ſpeak of, though the ground is capable of bringing very good, were they to cultivate properly for them.

I have ſeen a great deal of very ſmutty corn in this country. Farmers here are very rich, and a ſet of very intelligable people, having moſtly a good education.

Their land is good alſo in Perthſhire, but does not let ſo high as in Lowdon;

their farmers are alſo rich, and have generally a good education. Their wages are lower, and one reaſon is, they are farther from England, for the nearer England, the higher every thing rates.

The highlands of Scotland as far as John-a-groats houſe are pretty much alike, mountainy, and moſtly covered with heath, except in a valley here and there. The land lets in large tracts together at a bulk rent, at a very low rate per acre, was it meaſured.

There are great quantities of ſmall mountainy cattle reared here, but very little corn grown, except black oats, therefore their huſbandry is not worth taking notice of, or ſpending time about, ſo beg my reader to accompany me to England in the next chapter, to ſee what they are doing there.

CHAP. V.

The Nature and Price of LAND, LABOUR, &c. as it now bears in many different Parts of ENGLAND.

AS I brought my reader from Ireland through Scotland, I ſhall next take notice of the lands about the river Tweed, which parts England and Scotland.

Berwick upon Tweed is a good market, being well ſtocked with good butchers meat, which is chiefly ſupplied from Northumberland.

Beef and mutton here is very large. I ſaw two oxen belonging to Sir Thomas Haggerſton, Bart. near Berwick, which were judged to weigh a hundred and thirty ſtone each, and to have twenty ſtone of tallow in each.

They were of the ſhort horned Dutch breed, of which moſt of this country is ſtocked.

Beef and mutton three-pence a pound in the cheapeſt ſeaſon, veal very good, butter in winter at ſix-pence and ſeven-pence a pound. Labourers at eight-pence and ten-pence a day in winter, without meat. A ſervant man eight pounds a year, a head man ten pounds a year, a woman ſervant three pounds ten ſhillings a year.

They have great flocks of ſheep of a large long wool ſort. They have good land for turnips, and raiſe ſome, but not half ſo many as they ought, were they properly to ſtudy their own intereſt.

Near Tweed the land is a very good corn ſoil, and brings great crops of wheat. The gentlemen farmers are very rich; I once happened to dine with a club of them, there were eighteen in the company, and the land-lord where we dined told me, that the pooreſt amongſt them was deemed worth ten thouſand pounds, and ſome worth three times the money. They live joyouſly, drink punch and ſeveral ſorts of wines, not excepting claret at five ſhillings a bottle.

They plow with four horſes double, and a good many of them draw oxen. They are good tillers, and make much uſe of lime as manure, it ſtands them in about ſeven ſhillings a chaldron.

They are much troubled with ſmut amongſt their wheat, which is owing to their making uſe of dung upon fallows, and not giving a ſufficient time to rot in the heap, before it is put on the land.

Their farms are large, from forty to five hundred pounds a year. Along Tweedſide, and near the ſea ſide, land lets at about eighteen ſhillings an acre, but farther up into the country it lowers to ten ſhillings an acre.

They do not mow their ſtubble, as is cuſtomary in ſome of the ſouthermoſt countries, but whether they be right or no may appear in its proper place.

They have not as yet got into the cabbage huſbandry, which, by the bye, would be of great advantage to them, as they keep much ſtock of the largeſt kind, and they have land proper enough for this valuable part of culture.

From Newcaſtle to Durham, and Giſborough in Yorkſhire, the country, particularly towards the ſea-ſide, is a fine farming country. The farms are not ſo large as towards Berwick, which in fact are ſo beſt for the public.

The farms here are from twenty to two hundred pounds per annum, but the general ſize are about one hundred pounds per annum. The rents all run at about twelve ſhillings an acre, for ſuch as we call good corn land.

Graſs land, ſuch as is proper for dairies, at ſixteen ſhillings an acre. Men ſervants at nine and ten pounds a year, and head men twelve pounds a year; women ſervants at three pounds ten ſhillings to four pounds; labourers ten-pence and a ſhilling per day in winter; in ſummer fourteen-pence, without meat, in harveſt eighteen-pence and meat. Here are turnips ſown in many places, but few uſe the method of hoeing; they ſell variouſly from two to ſix pounds an acre, according to the goodneſs of the crop.

The farmers here have ſome excuſe for not hoeing their turnips, as the graziers and butchers prefer unhoed to hoed crops; this may ſeem very ſtrange to the Norfolk farmers, but the truth is unqueſtionable.

There are ſome gentlemen here and there, that have made experiments of the cabbage huſbandry with great ſucceſs.

But among none ſo much as thoſe poſſeſſed of a deep ſtrong clay ſoil.

I have heard from good authority, that ſeveral gentlemen have raiſed cabbages to the amount of fifty tons per acre upon clay land; but upon a cloſe and impartial inſpection, and by weighing a cabbage which I have often done, and knowing how many were on an acre, the middle crop may be ſafely ſtated at forty ton to the acre, of food for cattle, excluſive of the ſtalk.

In the north of Yorkſhire there is no material difference in the price of land, labour, or living; but near the city of York, and towards Leeds, Doncaſter, and Sheffield, labour and proviſions are higher, land alſo is higher, and divided into ſmaller farms, which may chiefly be owing to the ſpirit of trade, which prevails in ſeveral of thoſe parts.

In York market, beef and mutton at three-pence and three-pence half-penny a pound; good veal by the quarter comes at about three-pence a pound, but it is chiefly ſold at ſo much a joint; pork at three pence, and bacon five-pence a pound. Here is a good beaſt-fair every ſecond Thurſday, and a good pig-market every Wedneſday.

There is a fine level rich farming country, for thirty or forty miles to the eaſt and ſouth-eaſt of York.

The ſize of their farms is from twenty to an hundred pounds a year; it is true, there may be ſome few greedy people, that will not be content without laying three or four farms together; but, with happineſs to this country, they are only thin ſown. Farmers that rent from thirty to ſixty pounds a year, bring up a family very decently, and ſave money to portion four or five children, with perhaps two or three hundred pounds a piece.

Moſt part of this country is inclined to clay, though in ſpots there are ſandy fields. There is a great deal of good wheat and beans ſown in this country; but the wheat in ſpots is very ſmutty and black; but the red and cut worms which deſtroy green corn, they know nothing of.

As navigable rivers are twiſting into every corner, this country is well ſituated for ſhipping of corn to London or other diſtant markets.

Servant men from eight to twelve pounds a year. Labourers in winter eight-pence and ten-pence a day without meat, and fourteen-pence in ſummer, without meat, in harveſt eighteen-pence and meat.

Standing graſs mowed at two ſhillings an acre; fair ſtanding corn reaped at five ſhillings an acre.

They plow much here with ſingle horſes, one before another, and three or four in a team; in ſome places they draw two of a breaſt, and when the land is ſtrong and hard, three of a breaſt, which is a very ſnug, ſtrong, favourite team of mine. In ſome places they plow with oxen, which is a very profitable team, as will appear more fully in its proper place.

Beef and mutton in a general way at three-pence a pound, butter in winter, at ſeven and eight-pence a pound.

The Yorkſhire wolds lie to the north-eaſt and north of this flat country.

This is a very fine champain piece of ground, which extends in length perhaps thirty miles in one continued ridge, and moſtly ſix or ſeven miles broad, and in ſome places more.

This and Lincolnſhire wolds are two of the fineſt pieces of ground of the ſort I know in the world; they ſtretch ſouth-weſt and north-eaſt, and what is very extraordinary, theſe two wolds ſeem as if they had formerly been joined or united together, but were broke or diſunited by the Humber, or more properly ſpeaking, an arm of the ſea. That all or moſt of the ground from Hull to Beverley, being nine miles, has been gained from the ſea formerly, ſo that the diſtance from the two wold hills is at preſent about fifteen miles, viz. width of Humber five or ſix miles, and the low ground from Hull to Beverley nine miles.

Though this great ſeparation, and the preſent appearance of things, may make it ſeem very ſtrange even to harbour ſuch a thought, notwithſtanding I am ſtrongly of opinion that this ridge of land has been ſometime united, perhaps before the general deludge; their uniformity, direction of the courſe, materials they are made upon, and in ſhort every circumſtance beſpeak a thing of the ſort.

Their hills are no more than an agreeable eminence, one may gallop up and down the ſides without danger, The upper ſtratum or corn mould is only thin, but moſtly good, and very proper for barley, of which they grow great quantities, the under ſtratum is of a chalky lime-ſtone nature; ſome places rather flinty, and in others ſoft chalk; but upon the whole, it produces a kindly ſweet graſs, very good for ſheep, and they keep great flocks of a good kind upon it.

Formerly this land was thought little of; farms uſed to let at perhaps not more than a ſhilling an acre; in ſhort they thought it not worth incloſing, for it lay open without hedge or ditch for many miles together; but now the caſe is altered, they are incloſing very faſt, and let the farms perhaps at ten or twelve ſhillings an acre; and I would ſooner take a farm there, than in any part of the kingdom, the land being freſh and really kind in nature, as all land is that has a lime-ſtone bottom.

The wold land in general is very proper for ſaintfoin, I have ſeen it produce very good crops; a farmer told me that he made fifty ſhillings an acre of about twenty acres he ſowed with ſaintfoin, of land that never before brought him five ſhillings worth of graſs on an acre; he did nothing but ſow the ſeed, at the ſame time he ſowed barley and harrowed it in.

Burnet grows naturally all over the wolds; I have ſeen great quantities grow on the ſides of the paths where I travelled. I ſaw about five or ſix acres ſown with burnet, which appeared to be very good, but along-ſide of it, were ſown about ten acres of ſaintfoin, which alſo was good, which proves the land to be proper for both; but the queſtion is, which will turn out moſt to the farmers profit.

To prove this I weighed a ſquare perch of each, and the ſaintfoin weighed juſt double the weight of the burnet; we had not weights, but weighed one againſt the other, therefore could not aſcertain what each perch produced, but judged the ſaintfoin to be about ſixteen ſtone, and the burnet eight ſtone. They were neither of them at their full growth, being only the ninth of June, but they were very forward.

The wold farms run at about a hundred to a hundred and fifty pounds a year, though I know one of nine hundred a year, but there are not many of this ſort, it is a pity there ſhould.

Labour uſed to be low, but ſince they began to incloſe and turn more land into corn, it is riſen almoſt equal to the lowland countries adjacent.

A ſervant man eight pounds, a ſervant woman three pounds, a ſhepherd ten pounds, a labourer eight-pence in winter, and a ſhilling in ſummer, without meat.

They plow all with four horſes, two before two, and the ſame man drives that holds the plow, with two whipping ſtrings that goes to each of the foremoſt horſes heads; this method of plowing with one man and four horſes is peculiar to this country, and they are very dexterous at it: boys of about three pounds wages, will plow, upon occaſion, two acres a day. Their horſes are of a lightiſh kind, moſtly half blood, as they breed a great many running horſes here, being a good champaign country, and very proper for the purpoſe.

Lincolnſhire is noted for a large breed of ſheep, of which they keep great flocks and are particularly cleaver in the management of them. Their land is moſtly good and the farms large.

The Lincolnſhire wolds or high lands, as above obſerved, are of the ſame nature of the Yorkſhire wolds, and they manage it the ſame way, therefore what I have ſaid on this ſubject may ſuffice.

The low lands, or fenny country, is of a rich deep loomy nature, inclined to clay; it is a very forcing ſoil, brings great crops of any thing that is ſown on it, and is particularly good for paſture; I know a great deal, that will feed a large ox on an acre.

There is a good deal of land not far from Boſton, that lets in a farming way for forty ſhillings an acre.

There is alſo ſome exceeding good land between Louth and Saltfleet, which lets as high.

About here they have the pretrieſt breed of ſheep in England; they are not very large, but are what we may call *multum in parvo,* a great deal in a little.

Their legs are ſhort, and wool long; it is common to ſee the wool of the hogrils, or year old ſheep, trail on the ground, and it carries its length quite up to the eyes, ſo that they can ſcarcely ſee.

Their backs are ſo broad, that if they tumble on them, they very often cannot riſe, particularly if it happen to be in a hollow place, but they generally keep their lands very level.

My new invented moving ſheep-houſe would be extremely uſeful for this country ſtock maſters, becauſe the land being inclined to wet, it ſoon treads to dirt about the hay ſtacks and foddering places, and not only waſtes the hay and abuſes and dirts the cattle, but cuts and ſpoils the ſod. Beſides as the land is all divided and fenced by ditches, there are very little hedges or ſhelter, but the moving houſes would be proof againſt all theſe inconveniences, as appears more at large in its proper place.

This being a ſtock country, wages are lower than in a corn or manufacturing country; good men ſervants at eight pounds a year, labourers at eight-pence and a ſhilling a day.

Their farms from fifty to five hundred a year.

On the wolds and other high lands, they raiſe a great many turnips, and get as good crops as any in Norfolk; the low-land graziers frequently winter their ſheep on them; they give from two to four pounds an acre, according to the goodneſs of the crop, but they ſeldom hoe any.

The high-land farms let at about ten or twelve ſhillings an acre. There is very little light ſandy land in Lincolnſhire, it being generally of a ſtrong loomy or clay nature, conſequently good corn ſoil.

The greateſt hemp and flax country in England lies from Gainſborough to Thorn, along Trent ſide, called the Iſle of Axea. The land here is extremely good, though it does not let ſo high as in ſome other parts of the low countries near the ſea. They are greatly peſtered with ſmutty wheat in moſt parts of Lincolnſhire.

The markets of Lincoln and Gainſborough are moderately cheap, and the butchers meat good.

Beef and mutton at three-pence and two-pence half-penny a pound, butter at ſix-pence and ſeven-pence in the winter.

Rutlandſhire is a ſmall county, and only conſiſts of two market towns, but it is rich and populous; the land a good wheat ſoil, and well incloſed. Farms from twenty to a hundred pounds a year, and runs at about twelve ſhillings an acre.

They moſtly plow with four or five horſes one before another. About one half of the county is under tillage, and they grow a great deal of wheat which is ſometimes ſmutty.

They grow ſome turnips, but ſeldom hoe them. They complain of their land being too ſtrong and cold for them, and there is ſome reaſon for their aſſertion, but where it thus happens, I would adviſe them to follow the cabbage huſbandry pointed out in this work, it being very proper for ſtrong land.

Labour at eight-pence and ten-pence per day in winter, without meat, a ſhilling and fourteen-pence in ſummer. Servant men at ten pounds a year, women four pounds a year.

Cambridgeſhire takes in a great deal of fenny or marſhy low lands, but I do not think it of ſo good a quality as the low land in Lincolnſhire, neither are they ſo well drained, conſequently more ſubject to floods.

Their up-lands are lighter here than towards the north, and continues ſo through moſt part of Norfolk. It is very proper for turnips, and they ſow a great deal, but they are not ſo good managers as the Norfolk farmers in this particular.

Their farms run large, from twenty to four or five hundred a year. Their ſandy land lets from ſeven to nine ſhillings an acre, and higher where it is inclined to clay or loom. I have ſeen marl in this county, but the farmers make little uſe of it, as they have not half the idea they ſhould have of its great value. They make uſe of lime and dung as manure. They grow a great deal of barley in the light land countries, and great quantities of oats in the fen lands or marſhy ſoils.

Labourers a ſhilling per day in winter, and ſixteen-pence in ſummer, without meat, except the harveſt month which is forty and fifty ſhillings the month, and meat. Men ſervants from ten to fourteen pounds a year the head men; women three pounds ten ſhillings to four pounds.

CHAP. VI.

The AUTHOR's Opinion of the Nature of BOG, and from whence it proceeds.

THERE are many names to explain this matter by, as moraſſes, peat-bog, moſs, and bog; every country has its own name.

Before I begin to treat of reclaiming bog, it may not be amiſs to give my ſentiments, from whence it proceeds, and the compound it conſiſts of.

We are told, that imagination is one of the quickeſt and moſt extenſive powers belonging to the human being: true it is; for whilſt I am viewing and examining the many particles of ſticks, ſtraw, ruſhes, bones, &c. that bog is compoſed of, and which ſeem to have been jumbled together in great confuſion; I ſay, while thus

I am beholding theſe marks and tokens of the wonderful cauſe, my mind is ſtruck with wonder, and pity for thoſe unhappy ſufferers, that in reality ſaw and felt the great confuſion, diſtreſs, and deſtruction of this ſad cataſtrophe; as it is very clear to me, that the great deluge which deſtroyed the old world, gave birth or beginning (or what you pleaſe to call it) to the bogs.

But as ſome of my readers may not have had an opportunity to ſee a bog, or examine into the materials that compoſe it, I ſhall explain it as follows. viz.

Bog conſiſts of a light, open, porous, ſoft body, and moſtly full of water; which cover a great part of the earth.

Upon cutting the bog into ſquare pieces, about the ſize of a brick, and letting it dry in the ſun, it becomes caliſed, cloſe, and hard; when in this ſtate it is called turf, or peat, which is made uſe of for firing, and very good it makes, particularly when it is compoſed of black or hard ſolid bog.

If we break a turf in pieces, and inſpect nicely into its particles, we ſhall find it to be made up of ſtraw, ruſhes, hay, moſs, bits of ſticks of many ſorts and ſizes, &c.

Theſe are the general compound of what makes a bog, that, in ſome places perhaps, is twenty or thirty feet deep; I ſay this is what the bogs generally conſiſt of; but however, in ſome there are a great many more particles than I can mention. There has been dug out of bog at fifteen or twenty feet deep, human bones, wooden ſhoes, horns of cattle of ſeveral ſorts and ſizes; ſuch as cows, deer, elks, &c.

I once knew a human body to be found under a deep bog, which was quite entire, and as white as milk; but when it came to the open air, and to be ſtirred, it ſoon fell to duſt.

Under moſt bogs there are timber-trees of all ſorts and ſizes; ſome will lie acroſs each other, torn up by the roots; others broke off two or three feet from the roots, and the branches ſplit from the trunk. Such diſorder and irregularity plainly ſhews that it proceeded after this manner, viz.

At the general deluge, when the water aroſe ſo high as to overflow or cover the face of every thing in the old world doubtleſs every light body, ſuch as thatch of houſes, ricks, or ſtacks of hay, ruſhes, ſtraw, reeds, ſticks, &c. roſe and ſwam on the ſurface of the water as wreck; and when the waters abated, the currents muſt be very great.

It is alſo very natural to ſuppoſe, that ſuch wreck ſhould ſtop and gather at any thing that would obſtruct its courſe, ſuch as tree-tops in great woods, and the like.

It is ſuppoſed that the wreck on this occaſion muſt be very much; therefore when ſome of it ſtopped at thoſe woods, it would ſoon gather immenſe heaps, and the more the water left it, the faſter it was bound thereto; and when the water left it reſting on the tops of theſe woods, its immenſe weight cruſhed or broke them down under it, in ſuch croſs diſorder as above deſcribed.

And it is further obſerved, that all the timber lies quite under the bog or wreck next the firm ground, and every tree that is thus broke off, lies as it fell, cloſe to the root it belonged to or parted from. I confeſs upon conſideration, theſe bogs prove the truth of a deluge ſo fully, that were there no other tokens or memorandums upon record, it would bear no manner of doubt with me.

As to what brought on the great deluge, whether by rain, or whether the earth gave way, and dropped into that great abyſs, is a point not finally agreed upon by the learned.

It is true, the ſcripture tells us, that God drowned the old world by forty days rain; indeed it might rain forty days at the ſame time; but I muſt be excuſed from being of opinion, that forty days rain alone drowned the world, ſince a calculation, that may be made with a tolerable degree of exactneſs, proves that forty days rain, in a great degree would not raiſe the water a foot high, over all the face of the earth, and much more raiſe it fifteen cubits, which is ſeven yards and an half above the higheſt hill, as was the caſe at this cataſtrophe.

It is alſo true, if the great God pleaſed he could deſtroy the whole world with a drop of water. But however, it is not very probable, that forty days rain overthrew the old world: but it is poſſible and very probable, that the earth dropped or ſunk into the main abyſs; and it is alſo as poſſible that it would riſe again in a proper ſpace of time, being the lighter body, and interſperſed with air.

If we compare great things with ſmall, drop a piece of wood into a tub of water and it will perhaps go to the bottom, by the force of the fall; but it will immediately rebound, or riſe again to the ſurface; this I apprehend was the caſe here.

As to what the ſcripture ſays concerning the old world being drowned by rain, we may put it on the ſame footing as when Joſhua commanded the ſun to ſtand ſtill upon Gibeon, till he got his will upon his enemies.

Though we are ſure that the ſun is a fixed body, and that it is the earth which moves; yet however, Joſhua ſpoke as he thought in the literal ſenſe, and God knew his meaning, and granted his requeſt in one ſenſe; for he ordered the earth to ſtand ſtill, which anſwered the ſame end to Joſhua.

This, I ſuppoſe, was the like caſe with Noah; for God ſaid he would overthrow the world by water, and as rain was the eaſieſt to be underſtood by Noah, it was conveyed to him in that ſenſe.

It availed nothing to Noah how it was to be effected, whether by rain, or the earth dropping into the main abyſs, ſince God's will was fulfilled.

Beſides as I obſerved, it might rain all the time this great work was effecting; for as the earth was covered with water, the heat of the ſun had more power over that element, to exhale it into the clouds; and when the air or the clouds were overloaded, it would then doubtleſs return in rain as uſual.

There is a large book in folio, wrote upon this ſubject, by a very ſenſible author, wherein he proves very clearly, (having room much more fully to explain what I have here ſet forth) that the earth dropped into the main abyſs, and was not drowned by rain, as it is generally thought: and if the reader has ever ſeen the ſaid book, he muſt be of my opinion; at preſent I have forgot its title, or author's name, though I have read it through.

But however, be it how it will, a general deluge there was; and that this deluge was the founder of bogs, and that the materials of the ſaid bogs are made up of the wreck of the old world, is very eaſy to be conceived by a cool-headed reader, that will give himſelf time to think, and digeſt the above obſervations.

Bog being a compound of hay, ſtraw, ſticks, &c. intermixed, jumbled, or wove together (as it were) in great diſorder, one might expect it to be a maſs of dung, and ſo then it was, and would long ago have been melted into a ſolid body of earth, if the water had permitted the air to penetrate it, and cauſe a fermentation; then naturally would have followed a putrefaction; after this, it would have ſubſided, cloſed, fallen together, and become a ſolid body.

But as long as the water was permitted to lie thereon, it kept it always cold, not giving it time to heat or putrefy.

There is a fall (it is true) from all bogs, and the water continually keeps running off, and, in its paſſage, takes along with it many ſmall nitrous or rich particles, as all bog-water is black; and what makes it ſo, but the diſcarded particles of the bog being continually melting into it? For we are ſure the rain that falls on the bog, is, at the time of falling, as clear as in other places; therefore the bog continually keeps purging itſelf of its richer particles by the redundance of water that falls from the clouds; thus it alternately keeps receiving and diſcharging, by which means both the bog and the water are kept cold, and free from putrefying.

And further we are to obſerve, that the ground under a bog is always clay, marl, or ſome ſuch ſolid body, which holds water like a diſh; therefore the bog is utterly deprived of any other means or paſſage to diſcharge its load of water, but through the ſurface; whereas, if the bottom was a ſand, or ſandy-gravel, it would be immediately drained, and would long ago have become ſolid earth.

Therefore it is evident, that it is the water which keeps the bog alive; and if by ingenuity, œconomy, and induſtry, the downfals of water were not admitted to ſink into the ſurface thereof, but immediately be conveyed into main drains, rivers, &c. the bog would ſoon become a conſolidated body.

We ſee, that at the verge of almoſt every bog, there is a bottom, on which grows a coarſe ſort of graſs, which is ſometimes made meadow of; this has formerly been as rank a bog as the reſt, as appears by the nature of the ſoil and the bog-timber lying under it, &c. but the firm ground is a little higher ſituated than the middle of the bog, which gives it a ſheed; therefore the water has left it, and retired to the loweſt place: this ſhews that bog is loſing ground, and more particularly where people ſtrive to aſſiſt nature, by making canals, drains, &c.

This ſhews the advantage England has over Ireland by their early improvement, witneſs the fenny countries, levels, Holderneſs, &c. I know places in England where one may travel for ten or twenty miles together, over improved bogs, which are now harrowable, paſturable, and good meadow lands, though one may cut (perhaps) the height of a man, in turf, as may appear by their drains; and under it a bed of bog-timber; but then in ſuch places, you ſee it well drained, laid out, and improved.

All theſe are manifeſt truths, which every bog, the materials it is made of, and the ſituation it is in, can witneſs, and which may be evident to a nice inſpector.

CHAP. VII.

The Management of BEANS.

STUBBLE land is what is generally uſed for this crop, if you intend to raiſe it to the beſt advantage. Plow your land as ſoon as the crop of corn is off; and the firſt of February, if the weather permits, plow again, and then ſow your beans; if you ſow blendings, mix two beans for one pea; when ſown, harrow them in, but do not harrow the land too fine. If the beans or peaſe be not all covered, thoſe that lie upon the ground will grow, and be the forwardeſt and as good, if not the beſt plants.

This may ſeem odd to thoſe that do not underſtand it; but however, it is poſitively fact, which I have often experienced; and may appear to a nice inſpector thereof.

It is well known, that the ſeed of this grain riſes upon the top of the plant, and if they be covered too deep, it is hard for the ſeed to make its way thro' the earth; whereas, the ſeed that lies on the ſurface, has not that labour to go through, but the damp of the earth (if there be no rain) attracts the ſeed, and makes it ſtrike its root downwards, in a very little time.

As often as I have noticed this, I do not remember I ever ſaw a pea or bean loſt, by lying upon the earth, that did not grow; indeed the fowls of the air, is a conſideration that ought to be guarded againſt, as there is a greater danger to be feared from them, than from not growing.

Some farmers plow their beans under, but the above ſhews they would do better harrowed in.

I have known ſeveral crops of beans to rot in the ground in a wet ſeaſon, when they have been buried too deep, ſo that they could not make their way out of their cold ſituation before they periſhed; but this can never be the caſe by lying on the ſurface.

I wonder the farmers do not open their eyes to theſe plain facts, ſince it is as clear as the ſun, that they throw a great deal of ſeed and labour away: how often have I ſeen this done, by what they call dibbling?

When they practiſe this, they go with a ſtick, and make a hole beſide the bean, and let it drop in, and thus they ſerve all beans that have miſſed covering with the harrow. Whereas, if they would ſend one boy to keep off the birds, four or five days, they would prevent all that expence and trouble, except a very dry time enſued.

When the ſeed is ſown and harrowed, water-furrow, grip, and drain your land, to keep it dry.

Beans muſt not be rolled like other grain, as that would break and ſpoil them, being of a tender nature.

Beans are ripe for reaping when the pods are turned black about half way up the ſtalk, but the top pods and upper part of the ſtalk will be green. They are harveſted the ſame way as ſpring corn, except (inſtead of ſwarth-raking) what drops from the ſcythe muſt be picked or gleaned up, by a parcel of women or children.

CHAP. VIII.

Explanation of the FIELD-BEAN.

THERE is one ſort of bean particularly worth the farmer's notice, and that is the ſmall round, black field-bean, by ſome called the magazine bean; it is nearly black, and has not a dent or flat place about it, except at the thick end, where the eye is; moſt beans have two flat ſides, but this is plump, full, and round. It is a good bearer, and the ſtraw is ſmall, and excellent feeding for horſes.

The next to this in value is a grey bean, of a larger ſort than the former; this is called by ſome, battledore field-bean, by others large field-bean. It is ſhaped not much unlike a battledore, or in the Iriſh phraſe, a beetle; this requires richer land than the former magazine-bean, ſo conſequently is not ſo good fodder, becauſe the ſtraw is very groſs, neither is it ſo early ripe; but it is a good yielder, and, except the former ſort, is the beſt bean a farmer can ſow in the field.

The Iriſh farmers are almoſt quite ſtrangers to the magazine-bean; and as to the large field or battledore bean, they ſow it but in few places; they are too much attached to the culture of a garden-bean, commonly called the hot-ſpur bean. It is white, and the ſmalleſt ſort of garden-beans; it produces a ſtrong-taſted coarſe meal, and groſs ſtalk or ſtraw, which a horſe will not eat, neither is it a great yielder. I was once perſuaded to ſow ſome, and to look at it on the ground, was a great crop; but the produce was in the ſtraw, and not in the corn, and the ſtraw was of no uſe; this bean muſt alſo have good land to grow on. In ſhort, I believe it unnatural and unprofitable to be cultivated in the field as a horſe-bean. As to the different ſorts of garden-beans, I ſhall refer my reader to books of gardening, as this work is intended for the farmer's guide, and not the gardener's.

CHAP. IX.

The moſt ſuitable Land for BEANS.

I HAVE hinted in my remarks on beans, that almoſt any land, by proper management, particularly after turnips and clover, may be made to bring beans.

But as much as may be ſaid for genius, forecaſt, or management, yet ſome lands are a great deal more ſuitable for this crop than others, which I ſhall point out as follows, beginning at the beſt firſt.

First, deep, ſtrong loam land.
Second, ſtrong blue clay land.
Third, ſtrong clay gravel land.
Fourth, warp land.
Fifth, black haſle earth.

The above five ſorts may be ſown with ſucceſs, with clear beans, if the farmer chuſe it; but if he would ſow peaſe among them, they muſt be ſown very ſparingly, as the land will run them into ſtraw, ſo that they will get the better of the beans, and weigh them down, and hinder them from corning well. But the three following ſorts of land, being of a lighter nature, muſt be mixed with peaſe; proportion two beans for one pea, or the ſucceſs will be doubtful.

Sixth, loamy ſand land.
Seventh, red fox ſand land.

Eighth, gravelly mountain, mixed with black moory earth.

The three laſt ſorts of land are proper for peaſe alone; but beans are proper, and even neceſſary to be ſown among them, by the way of rodding; and if the beans were not to bear a ſingle grain, they would add to the peaſe bearing, at leaſt, one third more, and keep the ſtraw from the ground ſweet and clean: whereas, when the pea lieth on the ground, the root-end is kept always wet, and will be black and almoſt rotten, while the top is green, and perhaps in bloſſom.

Note, I mention the laſt paragraph on peaſe, purpoſely to ſave the labour of explaining them in a chapter by themſelves, as there can be little more that is material ſaid on the land proper for them.

CHAP. X.

Remarks and Illuſtrations on BEANS and PEASE.

THIS is a crop that deſerves the huſbandman's attention as much in its place as moſt others.

Experienced farmers taſte the ſweets in the profit ariſing there from, which makes them ſo attentive thereto; with them they are one of the principal crops, having a ſucceſſion every year, except in ſome very light ſandy countries; in ſuch they ſubſtitute peaſe in their place, or perhaps ſow blendings, that is, beans and peaſe mixed.

All over England the value of beans is well known to every traveller, being as frequently called for as oats to refreſh the wearied horſe with; the due proportion for a feed, is to mix half a peck of oats and a quarter of a peck of beans together; indeed ſome will feed with half and half, others with all beans; however, I believe half beans and half oats is the beſt feed.

They are alſo made great uſe of, to feed bullocks, or milch-cows; to the former, they are a great fattener, and to the latter, a creator of milk; when they are uſed for theſe purpoſes, they are ſplit, that is, half-ground, and mixed with bran or oats, but then the oats muſt be bruiſed in the mill alſo.

It is to be obſerved, that corn of any ſort, given to horned cattle, if not bruiſed in a mill, will paſs through them whole, and therefore be of little uſe, as they cannot chew like the horſe-kind, but ſwallow them whole; this makes it abſolutely neceſſary to have them ground.

The next great uſe of beans or peaſe, is for feeding hogs, as they give a firmer texture and finer flavour to the fleſh, than any other feeding whatever.

Alſo, the ſtraw and pulſe of the common horſe or field bean or pea, is very good fodder for horſes.

In ſhort, they are ſo valuable a crop for farmers, and ſo uſeful to mankind in general, that it is very aſtoniſhing, the Iriſh and Scots ſhould be ſo blind to their own intereſt, as not to ſow them more than they do, particularly as the lands through the whole kingdoms are extremely fit for them.

Many an argument I have had with gentlemen and farmers, in moſt parts of theſe kingdoms, particularly in Ireland, in favour of this crop; and it is amazing to hear the weak objections made uſe of to fright themſelves (as I may expreſs it) from ſowing this valuable pulſe.

Some would not ſow them, becauſe they thought their horſes would not eat them: others were apprehenſive they would blind their horſes: a third believed they would give their horſes the gripes: a fourth imagined the ſtraw of no uſe: a fifth liked the crop, but was afraid to ſow it, as the poor people would ſteal it, &c.

The former objections are anſwered as above, where I have explained their value, to which I call any experienced farmer to witneſs: and here I further add, that I do not know them to have one diſagreeable property whatever (when dry) in the uſe they are for.

As to the laſt objection, of the poor ſtealing them, this might be removed in a great meaſure, by making them more general: for the more there would be ſown in a neighbourhood, the leſs a few taken thus would be miſſed; beſides, it is not above a month or ſix weeks (which is, from being full to taking home) that they lie under the mercy of pilferers; and would it not be well worth a farmer's while to watch them in the day-time? For in the dark night they could do little hurt.

Another advantage is, that their bloſſoms afford a plentiful food in a country for bees to lay in their winter ſtock from.

I have likewiſe heard Iriſh farmers ſay, that beans are a great impoveriſher of land; but here again I imagine they are miſtaken, for I believe them to do leſs hurt to the ground than any other corn, except peaſe.

It is a proverb amongſt good farmers that though the land be poor, if they can get a good crop of beans or blendings, they are ſure of a good crop of wheat on the ſame land the year following.

But let me further remark, that I do not think either beans or peaſe, ſown each by themſelves, will afford ſo much profit to the farmer as when ſown mixed.

I know by this aſſertion, that I ſhall draw the cenſure of ſome of the Engliſh farmers upon me, ſuch as are very careful to keep the beans clear from peaſe; however, no argument is ſo good as when ſupported by ſtrong reaſons.

Another thing is, I ſhall have about three fourths of all the farmers in England on my ſide, who at preſent practiſe ſowing blendings, though their land may be ſtrong clay, and no doubt they will find their advantage in ſo doing.

The due proportion for any land (except it be a very light blowing ſand) is two beans for one pea; by which means, they will without doubt, be a ſtanding crop, as the beans will be (as it were) a rodding for the peaſe; in this caſe they are aſſiſtants to each other; for as the peaſe are kept ſtanding, and form (as it were) an arch over the top of the bean, the circulating air is admitted round them, to aſſiſt in feeding the corning part thereof.

The beans, when ſowed alone, admit of graſs or weeds to grow among them; and theſe encroachers take on, or impoveriſh land worſe than the beans themſelves; but the peaſe being ſubſtituted in the place of the weeds by ſuch œconomy, the land is burthened with nothing but what will enrich both herſelf and her maſter.

It is paſt contradiction, that a crop of blendings (be the land of what ſort it will, except a blowing light ſand, or black bog, which laſt is not fit for either) will produce conſiderably more corn, than if each was ſown ſeparate.

In England, farmers have a very good opportunity to try experiments in their common town-fields; but as an explanation thereof may not be diſagreeable, read it in the following table.

A TABLE

Of the Expence and Profit ariſing from an Iriſh Acre of Beans and Peaſe being ſown together, called Blendings; the Proportion of mixing for Sowing, is two Beans for one Pea; and in this State, they will produce more Corn to the Buſhel by about one Fourth, than if each was ſown ſeparate.

	l.	s.	d.
To 48 buſhels of blendings, at 3s. per. Total produce -	7	4	0
To two plowings with one man and two horſes - - -	0	5	0
To ſowing and harrowing - -	0	2	0
To chance of weeding - -	0	2	0
To ſeed - - - - -	0	6	0
To mowing, gathering, and binding - - - - -	0	3	0
To gleaning - - - -	0	1	0
	0	19	0

	l.	s.	d.
Brought over - - - - -	0	19	0
To ſtocking, carriage, and extraordinary attendance - -	0	3	0
The ſtraw pays for threſhing -	0	0	0
To land rent - - - - -	0	15	0
To carriage and market expences	0	5	0
Total expence -	2	2	0
Clear Profit -	5	2	0

CHAP. XI.

A few choſen RECEIPTS which have been proved by the AUTHOR to be valuable for the Cure of Horſes and Cattle.

AS I am a farmer, and no doctor, I do not intend to beſtow much paper on this ſubject: what I propoſe is, to give my reader a few valuable receipts that I myſelf have proved.

For many years I have been moſtly my own horſe and cow doctor, and always found more ſucceſs from my own performances, than when I truſted my cattle to conceited, ignorant, blundering farriers, who oftener act by chance than judgment, and who have killed me cattle that I myſelf could have cured.

Not long ſince I had a valuable mare killed by a fellow applying wrong drugs; and her diſorder was of ſuch a ſlight nature, that if ſhe had been let alone, ſhe could not have died of it, but I happened then to be from home.

Books of farriery are doubtleſs very uſeful when they fall into the hands of men of ſenſe, who can dive into and lecture upon a diſorder; he that can do this, certainly can chuſe out a proper medicine when he has a book before him containing ſeveral hundred receipts, and multitudes of different kinds of drugs preſcribed.

Such books are generally intended for the unſkilful; but I am of opinion, that it requires more ſkill to practice from them, than to write them. That there is more ſtreſs laid upon the judgment of the reader than the writer, is plain; for when the writer has deſcribed a diſorder, he will give you a catalogue perhaps of ten or a dozen receipts, made up of as many different drugs to each, and generally goes on, You may apply this, or this, or this; therefore he certainly leaves you to chuſe what he himſelf could not determine to be the beſt: and if he did know which was the beſt for ſuch a diſorder, he ought to have inſerted that and no more; if one will work the cure, why ſhould he perplex the ideas of an ignorant man with ſuch a multitude; for my part, I always found the fewer the better and ſafer.

The Cauſe and Cure of GREASE in Horſes.

THIS is one of the moſt common diſorders, that this fine animal is ſubject to, and it is very diſagreeable to his maſter, as well as painful to himſelf; though it is not often attended with immediate death, yet it is generally a prelude to other diſorders, which in the end prove fatal; and though a horſe gets twice his allowance of corn, he will not be fat, as long as he has the greaſe; for, inſtead of curing, it heightens the malady.

There are few men that keep horſes, but what have a trial of this diſorder ſome time or other; and though there are as many cures preſcribed perhaps for this as the tooth-ach, yet I never ſaw one that correſponded with the real cauſe of the diſorder: and indeed it muſt be a chance-medley if the cure be ſtruck out without knowing the foundation of the malady.

In this as well as in moſt other caſes, there is nothing more plain than that the firſt ſpring of this diſorder riſes from an over-heating of the blood, and then a ſudden cool, which cauſes a ſtagnation of the fluids while they are all afloat, and mixed with the inflamed fleſhy part of the body. For it is to be obſerved, when a horſe, or any animal is hot, the fleſh ſwells, and is larger than when in a temperate heat; this is owing to the blood and other fluids of the body being melted or thinned, then raiſed into a fermentation, and mixed with the fleſh, which expands, and opens the pores of that and the ſkin, this admits air among the fluids and fleſhy part of the body, and then cooling ſuddenly, it thickens and is ſtagnated in this ſituation. But it cannot reſt long there; for the air corrupts and turns it into a thin matter, which, without entering into the tubes, arteries, and blood-veſſels, (for it cannot, they being incloſed with a tough ſkin), drains off through the pores or grain of the fleſh, by the moſt perpendicular direction, to the extreme part of the horſe, which is to the very hoof; and when it comes there, can go no farther, but putrefies, and wounds the ſkin till it makes its paſſage; and when once a current is fixed, all the foul floating matter belonging to the fleſhy part of the body diſcharges itſelf that way.

There are two queſtions that I might naturally be aſked, viz. Why is a horſe, when taken from graſs in autumn, tho' not much heated, apt to greaſe? And why is a fleſhy legged horſe more ſubject to this diſorder than a lathy-legged one? This is very eaſily accounted for.

As to the firſt, we are to conſider, that graſs in autumn is a ſoft, frothy, unwholeſome feeding for a horſe; and the reaſon is this, the graſs thrown up by the Michaelmas ſpring, is imbibed with, and only conſiſts of a volatile, ſoft, watery acid; for the part of the graſs which is of a firm texture, and loaded with juices of a ſolid, nitrous ſpirit, is the ſpindle, which grows out of the root in a perpendicular manner, and conſiſts of a tube with ſeveral joints, and on which grows the ſeed. But none of this ſort grows in ediſh, or after-graſs; what grows at the latter end of the year, is only leaves of little real ſubſtance; ſo what fleſh they lay on, is of a ſoft, looſe, watery, open, porous nature, and this proves itſelf to us every time we ride a horſe at this time of the year fed upon it; for a ſmall motion or action will cauſe him to ſweat immoderately; what he throws off thus, is no other than a volatile air that he took in by the ſoft feeding, and which is mixed through the fleſhy part of the body that keeps open, looſe, and porous.

If you give ſuch a horſe much corn at taking him firſt up, it will heat his body, and cauſe an inflammation in his blood, and floating matter, which corrupts, and turns it into a digeſtive thin ſubſtance, which makes its paſſage, as in the former caſe, by the perpendicular direction. As to the fleſhy-legged horſe, this may be deemed as an attraction to divert the digeſted foul matter that way; for having ſuch a load of fleſh about his legs, it works and ſhakes every time he takes them up and ſets them down; and ſuch a friction keeps them continually in a heat, which inflames the parts, and theſe communicate their heat to the thighs, by which it attracts the attention of the fluids that way; ſo that, in fact, the fleſhy legs are a continual ſeat for ſuch inflamed matter.

To prevent the GREASE when a Horſe is taken from Graſs.

WHEN you take a horſe into the ſtable from graſs, if your ſituation will admit, for the firſt week, take him in at days, and give him a feed of corn, and turn him out at nights. The ſecond week, take him in for altogether; bleed him the firſt day, and only give him about two quarts of oats, morning and evening, for a week; every day give him a gentle exerciſe, ſo as to raiſe him into a moderate ſweat; before he cools, give him ſome ſcalded bran, and walk him a little after it: add to his feed of corn by degrees, thus continue till you find that he will bear exerciſe without ſweating, which is a token that you have wrought off the looſe frothy feeding, and brought his fleſh to a firm texture.

To prevent a Hunter or over-heated Horſe from GREASE.

WHEN a horſe is very hot after a chace, or hard riding, when you alight, order that he be well rubbed, and then walked ſharply about with a cloth over him, till a peck of ſcalded bran is got ready; then let him eat it, and walk him for half an hour after briſkly, keeping him covered; as ſoon as he is dry, curry him well, and hand rub his legs; keep him warm with cloths, and give him warm water, with a handful of oat-meal in it, to colour it white: if you have a cordial-ball, give it him; no man that has a horſe ought to be without theſe balls, as it is much better to prevent a diſorder than to cure it.

To Cure the GREASE in Horſes, be the Horſe's Legs ever ſo bad.

YOU ſee in the above ſheets, from what the greaſe proceeds, and knowing the diſeaſe, is half the cure.

When your horſe is broke out in his legs, give him a cordial ball in the morning, and after it a good bruſhing gallop, ſo as to raiſe him into a gentle ſweat; have a peck of ſcalded bran ready againſt he comes in; let him eat it, and all the time he is eating it, let him be well rubbed with a wiſp; after he has eat the bran, walk or trot him gently for an hour. Againſt he comes in have a poultis ready, made of old butter-milk and oat-meal, boiled together, in the nature of an haſty pudding; ſpread it thick upon a cloth, then ſprinkle over it a little oil of turpentine; bind it well about his legs, ſo that it cannot ſhake off; ſerve the fore-legs the ſame way, if they be broke out. At night give him another feed of bran;

the next morning ſerve him as you did the firſt; give him a gallop, a ball, and a maſh of bran, and put another poultis; and the third morning likewiſe. But the third morning when you lay on the poultis, let it be larger than common, bind it on well, and never take it off, or the horſe out of the ſtable, till his legs are quite healed and well, which will be in about four or five days, be the greaſe ever ſo bad. This is the moſt excellent certain cure in the world, I never ſaw it fail; and I have bought horſes for a trifle, that have been judged incurable, and cured them by it.

The melted foul matter is diſcharged three ways; firſt, by ſweat, but this muſt be moderate: ſecondly, by the bran: thirdly, by the poultis. For this poultis ſucks or draws all the foul matter or ſtagnated fluids out of all the adjoining parts; for theſe muſt have vent that way, there is no turning them back, or diverting their courſe to any other point.

The poultis renders the ſore as white as curd, and very ſupple. The reaſon of letting the laſt poultis lie on ſo long, is, that it may dry to powder, in order to heal the ſore. The poultis, while wet ſucks and cleans the ſore from all corruption, and nothing will heal ſo long as any remains there; but it being diſcharged, the powder is ſure to heal the ſore. I have often cured horſes, that were not very bad, with one poultis, laying it on, and not taking it off till the horſe was well. You had better not give too much corn while under cure, but give plenty of warm water and ſcalded bran.

A Purging Clyſter, for an INFLAMMATION of the LUNGS.

TAKE ſenna, and marſh mallows, each two ounces; fennel and bay-berries, each one ounce; boil them in five pints of water to two quarts; pour off the clear, and add four ounces of purging ſalts, three of the ſyrup of buckthorn, and half a pint of linſeed oil; give him the clyſter in a clyſter-pipe, let it be as warm as new milk; if the malady do not abate, repeat it the ſecond day.

It is neceſſary the horſe ſhould have a great deal of blood taken from him; the firſt day two quarts, the ſecond day two quarts; and ſo continue every day drawing as much as you find the horſe can bear to looſe. The above clyſter needs only be uſed when the horſe's caſe is deſperate; neither can all the drugs be eaſily got in country towns; therefore the following clyſter may anſwer nearly as well, and in many caſes better and ſafer, except the fever and inflammation be very high, as above obſerved.

Take a pound of treacle, boil it in a quart of milk till it curdles; clear off the curds, and add to the whey half a pound of honey, and a pint of linſeed oil; give it to the horſe blood-warm, one part in at the mouth, and the other clyſter-wiſe: by this it will diſperſe all through his bowels, incorporate and mix with his dung, which in ſome parts may be dry, hard, and baked, occaſioned by the heat of his diſorder; but this will effectually remove any obſtruction in this caſe, by evacuation, and alſo throw him into a ſweat: theſe together ſeldom fail of a cure, if the horſe be curable. The doſe may be repeated as often as you pleaſe, as it can do no harm, and is very nouriſhing. It will ſtill be better to add half an ounce of the oil of aniſeed; or, if it cannot be got, bruiſe an ounce of aniſeeds in a mortar, and boil it along with the milk and treacle.

There are very few inward diſorders a horſe or cow (for it is good for both) is afflicted with, that this ſimple medicine will not remove, but the beaſt muſt be kept very warm; it is alſo neceſſary that a ſmall hand ſhould be greaſed, and put up the fundament, to draw out all the hard dung within reach.

The horſe's drink muſt be warm white water, that is, a handful of oat meal put into a tub of warm water. His diet muſt be ſcalded bran, boiled oats, and every ſecond day a maſh of malt; give him a little ſweet hay out of your hand every now and then, till he begins to recover.

BRACKEN's Cordial Ball.

THESE balls, taken by way of a cooling gentle purge, to prevent ſickneſs, keep a horſe temperate in his body, and give him a free reſpiration; they are much uſed to running horſes and hunters.

I have uſed it many years with great ſucceſs, and believe it to be both an excellent preſervative and reſtorative: however, it is too expenſive for a farmer to uſe it: commonly I found it ſo myſelf; therefore many years ago I omitted two of the moſt expenſive articles, and in their place added two of my own chuſing, which I found to anſwer full as well, and for many years have uſed none elſe, except for a fine delicate horſe by chance. I ſhall give Bracken's firſt, and then my own, viz.

Take aniſeeds, caraway-ſeeds, and greater cardamom, finely powdered, of each one ounce, flour of brimſtone two ounces, turmeric in fine powder one ounce and a half, ſaffron two drams, Spaniſh juice diſſolved in water two ounces, oil of aniſeeds half an ounce, liquorice-powder one ounce and a half, wheat-flour a ſufficient quantity to make it into a ſtiff paſte; beat all the ingredients well in a mortar together, give the horſe a ball at a time about the ſize of a pigeon's egg.

BRACKEN's Cordial Ball curtailed in Expence by the Practiſer.

TAKE aniſeeds two ounces, caraway-ſeeds and greater cardamom ſeeds one ounce each; theſe muſt be finely powdered in a mortar; then take half a pound of treacle, and half a pint of milk, boil them till it parts in curds and whey; then take off the curd, and put the above powdered ſeeds into the whey, with two ounces of Spaniſh juice, and boil them till they are reduced to a thickiſh ſubſtance; then put them into a mortar, and add flour of brimſtone two ounces, turmeric in fine powder one ounce and a half, liquorice-powder one ounce and an half, half an ounce of balſam of ſulphur, bruiſe and mix all well in a mortar, and add as much flour of malt (for wheat-flour is binding, therefore a contradiction in nature) as will make the ingredients into a ſtiff paſte, and give the horſe about the ſize of a pidgeon's egg in a ball, or elſe diſſolved in a pint of warm ale, by way of a cordial drink.

There can be nothing better than this given to a broken-winded horſe to give him eaſe; but there is no cure for this malady.

To kill WORMS in Horſes.

GIVE the horſe (troubled with worms or grubs) three mornings together, a pint of ſtrong rue-tea; in it bruiſe and ſqueeze the juice of three or four heads of garlick; diſſolve in it a handful of ſalt.

To Cure a SORE of any Sort.

TAKE one ounce of Venice turpentine; mix with it the white of three eggs, beat them up together till they be in a white froth: uſe it by the way of a tent or plaiſter. If it be a green ſore, firſt waſh it with oil of turpentine, and then lay this on: if it be an old ſore, waſh it with allum-whey; and if it contain dead fleſh, cut it out as near as you can, and lay ſome green verdigriſe on it, under the plaiſter; continue to do this, till the dead fleſh is eaten off; and when that is gone, there is no doubt but this ſalve will cure any ſore: if it be in ſummer-time, and that your horſe run among flies, rub over and round the plaiſter a little train-oil, and the flies will not come near it. There is one obſervation you muſt always bear in mind, and that is, to give vent to your ſore at the bottom-part, for all matter works downwards, and it is impoſſible to cure a ſore as long as either matter or dead fleſh is there: indeed, if you keep a ſore clear of theſe incumbrances, it will heal itſelf, and there is no better thing for that than waſhing it with allum-whey.

To Cure the MANGE or SCAB.

TAKE two pounds of tobacco-duſt, and boil in it one gallon of old chamber-lee; bruiſe very fine half a pound of ſtone brimſtone, and put it into the liquor; let it lie a day before it is uſed; waſh the horſe all over, but firſt bleed him well, and either give him two or three cordial-balls, or ſome ſulphur mixed up in new milk and ſcalded bran.

To Cure a STRAIN in the Shoulder, or a CLAP in the Back Sinews.

AS ſoon as you perceive the horſe ſtrained, immediately bleed him in the plate-vein; then take oil of turpentine, oil of ſpike, ſpirits of wine, and the ointment of marſh-mallows, each one ounce; mix them together over a gentle fire, then hold a hot bar of iron as near the ſhoulder or fetlock as the horſe can bear it, and rub the oils well in. Tye the horſe ſhort to the rack, as it will ſmart him for about half an hour. If it be a ſtrain, or, what is all one, a clap in the back-ſinews, bleed in the fetlock-vein, juſt above the hoof.

CHAP. XII.

A few RECEIPTS for the Cure of Black Cattle and Sheep, proved by the Author.

To Cure the Red or blend WATER in a Bullock.

TAKE a piece of lean hung beef, dry and bruiſe it to powder; do the like to a red herring; mix theſe powders together; then add to them an ounce of bole armoniac, and a handful of ſhepherd's purſe, ſtamped very ſmall; mix all theſe together in a quart of the ſtrongeſt, oldeſt ale you can get; this will make two doſes; give it two mornings together lukewarm.

To kill LICE.

BOIL a pound of tobacco-duſt in a gallon of ſpring-water, and waſh the beaſt over, or elſe rub it over with train oil; which will both kill lice, and keep flies from diſturbing the cattle in ſummer.

To ſtop SCOWERING in Cattle.

TAKE half a pint of old verjuice, and mix in it an ounce of bole-armoniac reduced to powder; or, for want of this, bruiſe to powder a large handful of kennel-coal, and give it in a quart of new milk three mornings together.

To make a Cow take Bull.

GIVE her three mornings together three pints of milk each morning, warm from any cow that is a bulling; put into the milk a handful of rye-meal; let the bull go with her, and ſhe will ſoon take him.

To Cure the MAW-BURN.

TAKE two quarts of new buttermilk, half a pound of honey, and a pint of linſeed-oil: mix all well together, and give it lukewarm one half as a clyſter, and the other down the throat; but rake the beaſt firſt, with a ſmall hand well greaſed.

To kill WORMS in Cattle, prevent Sickneſs, and make them thrive.

TO every gallon of water mix half a ſtone of ſalt, and a quart of tar, and give every beaſt a pint once every fortnight, particularly if you dread any diſorder: if you give your cattle a handful of dry ſalt every ten or fifteen days, it will make them thrive amain.

To dry up MILK in Cattle you want to feed.

TAKE an ounce of powdered allum, boil it in two quarts of milk till it turns to whey; then take a large handful of ſage, and boil it in the whey till you reduce it to one quart; rub her udder with a little of it, and give her the reſt by way of drink: milk her clean before you give it her; and, as you ſee need requires, repeat it. Draw a little milk from her every ſecond or third day, leſt her udder be overcharged.

To prevent the BLACK-LEG, or BLACK-QUARTER, in Calves or Lambs.

THIS diſtemper may be prevented, but cannot be cured when it once ſeizes the creature: the beſt lambs and calves are moſt generally ſubject to it; it is occaſioned by an over-rankneſs of blood, that is, the whole body is overloaded with blood, ſo that the veins cannot diſcharge it quick enough, therefore it breaks or burſts out of the ſmaller blood-veſſels, and diſperſes through the fleſh; then being out of its latitude, it immediately cools, corrupts, and becomes as ſo much dead matter, which corrupts or rots all the fleſh near it, and having no vent to diſcharge itſelf, it is rendered incurable, therefore death quickly enſues, by a mortification.

Every breeder knows the time of year he generally loſes his calves or lambs by this diſtemper, therefore it is the eaſier for him to guard againſt it; we ſee by the nature of the thing, that we have nothing to keep in ſubjection, but the blood; if we can keep it within its natural courſe, then it will preſerve the animal.

If the blood can be kept thin, ſo as to play freely through the veins and arteries, it is not a farthing matter how much there is in the body; but it is when it turns thick and ſlow in its motion that it clogs or ſtops up the avenues; therefore to prevent ſuch eruptions, he muſt take care either to unload the veins by often bleeding, or keep the blood thin by exerciſe and medicine; either will do, but both are ſureſt; and as it is not either expenſive or very troubleſome, there is no excuſe for not keeping the cattle alive.

Before the time this malady generally comes on, be prepared with a quantity of rue in proportion to the ſtock of calves or lambs you have to take it.

On the firſt of May or thereabouts, make two quarts of very ſtrong rue tea, for every calf you have, and to every two quarts of tea, put two quarts of ſalt; bottle it up for uſe. Drive up your calves every Monday morning, or once a week, and give each calf half a pint, and bleed them in the neck-vein once every fortnight; give your lambs each half the quantity every week, and bleed them in the tail every fortnight; by this precaution, you, in all probability, will looſe neither lamb nor calf: though I call them lambs or calves, they are generally a year old before they take this diſorder.

To kill LICE or MAGGOTS in Sheep, and Cure the SCAB.

IN every two quarts of water, boil a quarter of a pound of tobacco, in this diſſolve half an ounce of corroſive ſublimate, add a gill of the ſpirit of turpentine and a gill of train-oil; bottle it up for uſe.

To kill WARBLES.

PRICK them with a pin, and rub them with the ſpirit of turpentine; ſalt and water will do ſometimes, if they be ripe, but the former is more effectual.

A ſure Method to prevent Sheep from the ROT.

IN the ſeaſon, when herbs are in their prime, take an equal quantity of rue and wormwood; make them into a ſtrong tea; into every quart of tea put two quarts of ſalt, and one ounce of the balſam of ſulphur; keep it bottled up for uſe, and give each ſheep two large table-ſpoonfuls for a doſe, three times, or at leaſt twice a week all the ſummer; a ſpoonful of dry ſalt three times a week is another preventative, but the former is more to be depended upon. I have tried it more than once; and I know a gentleman that ſaved all his flock by it, when others on the ſame common moſtly died.

To prevent the Fly from diſturbing Sheep when new ſhorn, create the growth in Wool, prevent Maggots or Lice from breeding, and prevent Sickneſs, Pelt-rot, or Scab, &c. and from whence theſe Diſorders proceed.

THERE is nothing more plain than that all theſe diſorders are occaſioned either by neglect or miſmanagement; and I am very confident, that if the following receipt be kept up to, which is both cheap and eaſily executed, not one ſheep in a hundred will die, or even fall into any of the above diſorders; this I know to be fact, both by reaſon and many repeated trials.

What effects or diſorders the animal ſpirits in one form of body, will in another: what will affect the human ſpecies, will a brute-beaſt, in either a greater or leſs degree. If we conſider the nature or ſituation of a ſheep in the ſhearing-ſeaſon it will eaſily digeſt this argument to us. It is alſo very evident, that moſt diſorders which affect the animal ſpirits, come on at firſt by cold; that ſuch colds are moſt liable to ſeize the body when it is in the greateſt heat, for then the ſkin (which is extended by nature as a defence againſt colds from entering into the fluids and open fleſhy parts) is, in time of any great heat, extended or ſtretched beyond its natural or uſual bounds, by the ſwelling of the fleſh, and all other inflamed parts within. Therefore this ſurface or ſkin, as well as all other parts of the body, is as open and porous as a ſpunge, which admits the external air; and in this, as well as in all others, the greater the heat, the greater the attraction. And this air being admitted, and mixed with the inflamed frothy fluids, as ſoon as the motion of the body abates, ſo does that of the fluids, whereupon the froth ſettles, the parts ſhrink, the ſkin cloſes to its uſual ſtate, and within confines the attracted air; which, being mixed with the blood or fluid ſluid matter, cools, thickens, and ſtops the uſual currency, ſo conſequently diſorders the whole machinery till it is digeſted: and though in ſome caſes, when it is only ſlightly affected, it may work off imperceptibly, perhaps externally, by a boil, warble, or ſome ſmall breaking out; or internally, by gripes, or purging; but if the fluids be more heavily loaded or diſordered, then it muſt have ſo much the more forcible remedy to eradicate it; for it is impoſſible for any living body to be in health or good frame, as long as any dead or inactive matter lodges within, contrary to its nature.

And what I have ſaid, together with other concurring circumſtances, may prove that all or moſt colds are taken up through the ſkin alone, and not through any open paſſages for taking in or diſcharging out any ſubſtance of nouriſhment.

If we be uſed to lie in a night-cap every night, but ſuddenly caſt it off, do not we catch cold in our head? The like may be ſaid of caſting a neckcloth, we take a ſore throat: if a coat or waiſtcoat, we feel the effects of it in our bones (as is commonly expreſſed): if we be in a great heat, and run immediately to bathe in a cold bath, would it not greatly endanger our lives? I believe a little accident that once befel me, has ſince ſaved me many ſheep, or at leaſt diſorders in them.

I would not give a ruſh for any doctor, whether he be for the human or brute creation, that could not reaſon well, and ſhew where the grievance lay, and what brought it on: it is only ſuch knowledge which can open his ideas to point out a cure: if he be ignorant in this, I ſhould ſuſpect him of not being overburdened with ſterling ſenſe, and every thing he did was hap at a venture, therefore no more than an equal chance whether it hit or miſſed.

I hope my reader will excuſe me for comparing a human creature to a brute; but I only do it ſo far as relates to the machinery of the body, (the ſoul has nothing to do with fleſh and blood), and this in the two creations is nearly alike; I am certain what will diſorder the one, will affect the other in ſome degree, according to the ſtrength and conſtitution; and I am equally clear, that what will cure a man, will cure a horſe, if their diſorders ſpring from the ſame cauſe, and due care be had as to the proportion; neither is the diſtinction of the proportion applicable only to the two names of brute and human ſpecies, but partly to the ſize of the two bodies; for if the body be large, the veins, arteries, blood-veſſels, &c. &c. require a doſe in proportion, to circulate there thro' in order to an equal diſcharge, a big man will require more than a ſmall one, and ſo will a large horſe more than a galloway.

I am perfectly ſure that a man requires more ſterling wit to be a good doctor for a brute than for the human ſpecies, becauſe we can tell where our ailment lies, how it affects us, and how we came by it. Theſe are queſtions generally firſt aſked, and, being reſolved, are great helps to the doctor; but a dumb creature can only make ſigns at beſt in an imperfect manner, therefore it requires great penetration of judgment to find out the cauſe or complaint; indeed the beaſt-keeper may ſometimes help out, by telling what hardſhips or miſchances the creatures meet with. Yet theſe are all ſhort of ſpeech from the afflicted; which ſhews plainly, that a doctor for the brute-creation ought to be a man of real ſenſe as well as learning, and alſo to underſtand a good deal of natural philoſophy.

Upon looking back, I find this ſort of a lecture has ſwelled my diſcourſe larger than I at firſt expected; but it will not be amiſs, perhaps, for my reader to bear it in mind for other ſorts of cattle as well as ſheep, ſince all ſound reaſons hang by one ſtring.

The month of June is the moſt proper for ſhearing ſheep; and in this month the weather is generally very hot; the ſheep alſo are loaded with a very heavy coat. Reaſon will tell us, that if they were to run in winter, it would not heat them ſo much as to walk now; nay, in ſhort, if they were to run with it off in a hot day, it would not heat them ſo much as to walk with it on the ſame day.

It is principally owing to waſhing and ſhearing that ſo many maladies in ſheep ariſe, particularly thoſe of pelt-rot, ſcab, hide-bound, and ſurfeits, or broken coats, &c. &c.

And the reaſon is plain and natural; for let a man be ever ſo careful in driving them to the fold, they muſt be heated when put into the fold. For, by ſtanding ſo cloſe together, they will heat one another, and again by running among them to catch them, adds ſtill to the evil;

then, in this heat, they are put into the coldeſt of water, becauſe it is generally running water; popping them into it in ſuch a ſituation, is almoſt as reverſe to their nature, as for a fiſh to be out of water. For they are environed by the thinneſt ſkin almoſt of any other animal, ſo certainly muſt be the moſt liable to ſuffer in their conſtitution, as appears by the aforeſaid reaſons. And now being waſhed they are expoſed in another extreme; for if their coats were thin, ſhort, and open, like that of a dog, or a horſe hair, it might ſoon dry; but, inſtead of that, they ſtand during the night with a thick, heavy, wet coat of wool about them. Which may be compared to a man lying in wet ſheets, which has coſt many a one their lives. It may be anſwered, that ſheep are often wet by rain, ſo I grant; but very ſeldom to the ſkin. For wool is of ſuch a nature, that it ſhoots off rain ſurpriſingly.

I have examined a ſheep in a very rainy day, but I never yet ſaw the wool wet to the bottom, if it was of any length; and if it was not, it would not affect them ſo much, becauſe the fluids of the body are in a temperate heat; add to this, they are generally in motion by walking to feed, and the rain comes on gradually. All theſe conſiderations ſhew that waſhing ſheep is attended with two extremes of heat and cold, that they follow cloſely one upon another, while the fat or fluids are in a manner melted, therefore muſt certainly hurt their conſtitution or frame of body in one degree or other.

In a few days after this, they go through another ſudden change, which is that of loſing their coats. They are again heated, by driving, ſtanding cloſe together, catching, &c. And now they are ſtripped naked to ſtand in buff all the night following; which is juſt the ſame as if a man were to ſtrip off his uſual apparel, and go naked; nay, it is rather worſe, becauſe he can change an uneaſy hot ſituation by looſing his buttons, or ſometimes

times thinning his cloaths, by degrees, as the weather grows hotter; but the warm fleece grows inſenſibly upon the ſheep, and they never change it but once in a year, and that ſuddenly, or all at once.

I have ſeveral times known ſheep die the next night or two after they were ſhorn; even laſt ſhearing-time we had it in the news-papers, of a farmer in England who had a good many fat weathers that died the night after ſhearing, becauſe it happened to be colder than common. And will not reaſon tell us, that though the whole flock did not die, yet, as ſome did, it ſhews that the ſtrongeſt in conſtitution muſt ſuffer in ſome degree or other, though inſenſibly to our ſight?

Now, all the above conſiderations being added together, prove, even to the weakeſt underſtanding, the ill conſequences attending theſe two operations of waſhing and clipping; and I have often wondered how it was poſſible that ſo eſſential a point (to the health of this uſeful creature) ſhould eſcape the pen of ſo many authors as have wrote upon this fine, proffitable, innocent animal. As I am clear, from experience, (and if I had none, plain reaſon muſt ſhew), that there is not ſo fatal a diſorder belonging to a ſheep (rot excepted) as ariſes from the conſequences as above. And yet I have before me a work containing four or five hundred pages, which treat of nothing but ſheep and ſheep-dogs; I know the author to be a ſenſible man, only that he is too long-winded, for he might have ſaid as much to the purpoſe in twenty pages as the whole contains. The feweſt words that a man can expreſs himſelf in, ſo as to be underſtood, the greater is the value of his works, ſo far as relate to phyſic or huſbandry. As to hiſtory or novels, they are quite another thing, for the value of them (in a great meaſure) is ſet according to their great bulk.

Though we ſee that the two operations of waſhing and ſhearing are ſo dangerous in the preſent practice thereof, yet it is a work that is abſolutely neceſſary to be done: I ſhall therefore point out methods how they ſhall be performed with little or no damage to the ſheep: and be aſſured, my reader, that it is much better and ſafer to prevent a hundred ſheep from falling into a diſorder, than to cure one already in it, and the ingredients will not coſt above a penny a large ſheep, and a halfpenny a lamb: then, as the phraſe is, who would loſe his hog, for a halfpenny worth of tar? Beſides, the expence and trouble are as nothing in compariſon to the great benefit the wool receives there from.

The Receipt to make Wool grow.

To every four quarts of new butter-milk, put one quart of train oil, one quart of tar, and one of ſtrong tobacco-water wherein all the ſtrength of half a pound of tobacco-duſt has been extracted by boiling: mix the liquid all together, then diſſolve four quarts of ſalt; rub the ſheep all over as ſoon as ſhorn; this will be ſufficient for twenty ſheep or more.

A CORDIAL for Sheep before Waſhing or Shearing.

TO every quart of ale put one quart of Barbadoes tar, and one quart of ſalt; give each ſheep the eighth part of a quart when it is going into the waſhing pool, and the like doſe when it is ſhorn at the time you are rubbing it. Theſe medicines will effectually prevent any of the aforeſaid diſorders, add growth to the wool, and kill lice, &c.

To make WOOL grow, preſerve the Lamb from the Fox, &c.

WHEN your lamb is dropped, as ſoon as it is dry, rub it all over with the butter-milk, tar, train-oil, and ſalt, prepared as directed for grown ſheep, but omit the tobacco-water; this will make its wool grow, prevent lice from breeding and keep it warm. After this, if you be afraid of the fox, put a ſtreak of tar over its loins, ſhoulders, and round its neck, and a fox will not touch it.

To make Ewes take the Ram.

IF you want early lambs to feed for the butcher, and to feed the ewes in ſummer, your way is to chace the ewes about the field to raiſe them in a heat, then give each ewe a table ſpoonful of brandy: after this, turn the rams to them, and they will take them.

To Cure any Sort of WOUND in a Sheep.

MIX together an equal quantity of tar, turpentine, and freſh butter; apply it plaiſter-wiſe, and it will not fail, but cure any ſore.

To know a Sheep's Age.

TILL a ſheep is a year old it is called a lamb; in the ſecond year it has two broad teeth before; in the third year, four; in the fourth year, ſix; and in the fifth year, eight. Thus far we are led on by certainty, but after this it is only gueſs-work: if the teeth be long, yellow, and broken, it is a ſign of great age.

CHAP. XIII.

On making HAY, to retain its Juices in it though a wet Seaſon, and to recover bad HAY.

VARIOUS are the methods of making hay; ſome people take much more labour about it than others, and perhaps do not make it ſo well, though they may have weather alike: it is true much depends upon weather, and ſo does very much depend upon a good method of doing things; reaſonable occurrences, a good forecaſt, and a ready method of getting forward with buſineſs, may do more in one day, than the reverſe would do in two. A man's wits ſhould always be about him, to catch all opportunities in brittle weather, ſo ſhould he be always provided, for fear of the worſt.

I ſhall point out the method how I ſave hay, and let the ſeaſon be ever ſo bad, I never have any damaged. I am ſure if every hand would follow my directions, they would have good hay in the worſt of ſeaſons: and alſo in a dry ſcorching ſeaſon, there is great precaution to be uſed in preſerving the ſap in it.

I ſee no reaſon (if hay be rightly made) why it ſhould not feed a bullock in winter, as well as in ſummer, when it was in graſs; but this can never be expected without all the real ſubſtance it contained in its graſſy ſtate be kept in it.

It is not filling the belly of an animal that avails much for feeding, if its food is not impregnated with ſuch oily ſubſtances or juices, as are neceſſary to dilute the drier particles, and diſperſe them equally through the avenues of the body, in order that every part may be ſupplied with proper nouriſhment to enlarge its premiſes.

It is my method generally to begin to cut my meadow in rainy weather, particularly if the ſummer be likely to be wet, that is, after it has rained a day or two; becauſe the odds are above twenty to one that it will not rain above two or three days together, without an intermiſſion of a dry day or two; and if the graſs be cut in ever ſo dry a time, it ought to lie two days to ſhrink or wither before it is ſtirred out of the ſwarth, but not longer, leſt it ſhould turn yellow at the under ſide.

But if it happen that you cannot get a dry blaſt the ſecond or third day then go with rakes, and turn the ſwarth over, the under-ſide up without ſpreading, becauſe if you ſpread it, the ground is all covered, and conſequently kept wet, ſo that you have no dry place to turn it into when a dry blaſt comes.

Whereas if the ſpaces between the ſwarths be kept uncovered half an hour the ſun or wind will dry the ſtubble, and then by turning the hay thereon, it will dry more in one hour, than in ſix if the ground be wet, and it avails nothing to ſpread till a fair blaſt is got to dry it.

As ſoon as it is dry after the firſt, or at fartheſt, ſecond day after cutting (without ſpreading out of the ſwarth, if poſſible it can be avoided) make it into what we call a foot-ball cock.

That is, you muſt ſhake about half an armful of hay into a round heap, then ſmooth the top, and ſtroke down round the ſides with your two hands, and gather all the ends and looſe between your hands into a lump at the under-ſide of the cock, ſo that the cock will be round; and this lump is by way of a foot for it to ſtand on, in order to keep it from the ground, and to give liberty for the wind to circulate round it.

The cock ſtands as it were on one leg, and that leg kept dry by the over-hanging of the body, therefore not one bit is in the leaſt danger by lying on the ground to be wet, or turned black, and being ſmoothed round about, it keeps out the rain-water; and being ſo ſmall, there is no fear of its heating be it ever ſo green put together, becauſe the wind blows through to dry it, and this without having the ſubſtance exhaled or fried out by the ſcorching heat.

Thus let it ſtand till it is well weathered and dry, ready to go into a large load-cock or a ſtack.

I never in my life had any happened bad that I took this method with; and it is alſo a cheap way, for it is never handled over, or any ſecond trouble had with it, but to make it into theſe cocks, out of ſwarth, and out of theſe cocks, into large ones.

Indeed, if the weather be very good, I only turn the ſwarth over the third day, then let it lie, and ſo put it into a common hay-cock the fourth or fifth day, according to the weight of graſs that may happen to be on the ground, and according to the ſtate the hay is in when cut; for if it be cut very green, it will be the ſofter, lie cloſer together, and take a longer time to wither.

It is a great miſtake to let meadow be too long uncut; for firſt, you lower the value of the hay; ſecondly, the after graſs; and thirdly, you ſpoil and periſh the ground all winter.

It is prudent to put hay together as green as poſſible, into a ſtack to ſweat, ſo as not to fire; and to prevent this, make a vent-hole, or two or three, according to the ſize of your ſtack; this is eaſily done by drawing up a ſack ſtuffed with hay, as the ſtack riſes.

Hay that gets a brown colour by ſweating, is always ſweet, rich, and fattening, becauſe it is the ſap or juices of itſelf only that cauſed the heat or ſweat and this colour.

But if hay have any water in it, when ſtacked, inſtead of turning brown, it turns a white mould, ſo putrefies and ſtinks, and is very unwholeſome for cattle to eat.

When it is cut out of the ſtalk, it is as white and duſty, as if it had meal among it, ſuch is of an unwholeſome bad nature, the way to prevent this, make it wholeſome, and alſo to leſſen the danger in green hay of firing, to prevent ſickneſs, and add ſtrength and vigour to the cattle that eat it, is to mix ſalt among it when it is ſtacking, viz.

Every layer of hay, ſprinkle thereupon a quantity of dry ſalt.

It is inconceivable the value that five buſhels of ſalt would be of in a ſtack which contained ten waggon-load of hay, and ſo in proportion; or if a greater quantity of ſalt, it is ſo much the better, for you cannot put too much.

This would be like turning a hay-ſtack into a ſalt marſh; and it is well known there is no ground more wholeſome; for if you turn a poor, tore-down, ſurfeited horſe into a ſalt-marſh, it not only purges and clears him of all diſorders, but alſo fattens him very quickly.

In ſhort, every farmer in an inland country, might nearly ſupply the place of ſalt marſh, by giving his cattle ſalt amongſt their food, and every now and then, a handful of dry ſalt in ſummer, or learn them to lick it out of a trough, which they will ſoon do, being naturally fond of it; and indeed every animal, if it had liberty to follow the dictates of nature would find out its own medicine; witneſs the monkeys, how they find out rhubarb, and eat it as a remedy in diſorders, though they know it will make them ſick. It is not natural for a dog to eat graſs as food, yet we ſee how diligently he will find out the right ſort for his uſe, and eat it as a medicine, by way of a preventative, though he knows it will make him ſick: this we ſee with our eyes; and juſt ſo would every animal follow its own natural dictates, were it not ſubverted, prevented, and driven out of its bias, by the ingenuity of man.

When you have old hay ſpared over year, the way to enrich it ſtill more, (let it be good or bad) is to mix it with dry graſs.

What I mean by dry graſs, is ſuch as that is newly cut, but dry from dew or water.

Being provided with ſuch, begin and make your old ſtack over again, and lay a layer of graſs, and a layer of hay through all the ſtack.

The abundant juices of the graſs will ſweat out, and impregnate with the dry particles of the hay. If the hay was good before, it will ſtill add to that goodneſs; if bad and ill ſaved, it will enrich and ſweeten its poor, bitter, dry, huſky, ſtraw nature, beſides it ſaves labour of making graſs into hay.

If you have ſtraw, it is very good alſo to mix graſs with ſuch; for the dryneſs thereof attracts and receives the ſuperabundant juices of the graſs by which it is enriched, and made as good, if not ſuperior to middling hay. Indeed a great deal may be done to a farmer's advantage, if he pleaſes to open his eyes and ears to plain reaſon.

CHAP. XIV.

The Culture of MADDER deſcribed, with a State of the Expence of Cultivating one Acre; and an Account of an Experiment made with reſpect to uſing the green ROOT for the purpoſes of DYING.

I Have been a practical grower of madder for ſeveral years, and have tried it upon lands of various kinds, and as I apprehended the cultivation of it in England is of great importance to our trade and commerce, I am willing to communicate the reſult of my experiments to the public.

My firſt trial was upon a ſmall piece of ground near my houſe, of about forty perches of land, lying pretty low and moiſt, of a deep mellow ſoil, and rich black mold, a little inclining to ſandy;

and underneath about two feet and a half, and in ſome places three feet of good earth, was a bed of looſe ſand with a mixture of gravel.

I have been the more particular in the deſcription of the nature of this land, becauſe it produced the beſt Engliſh madder I ever had, both as to quality and quantity.

In March I cauſed this plat to be dug a full ſpit deep; and as it was under natural graſs for ſome years before, I took care in digging to throw the top-turf as low as poſſible, turning the mold uppermoſt, in order to prevent the graſs from ſpringing; which had the deſired effect. I alſo took care to pick out all the roots of weeds, and other noxious plants, which were found therein.

In this ſtate it remained about a month; then with a line I divided it into beds of five feet wide, and two feet interval between each bed, raiſing them a little in the middle with ſome of the earth in the intervals; then with iron rakes the beds were reduced to a fine garden-mold, leaving them a little rounding, like aſparagus-beds in order to ſhoot off the rain-water; and having procured ſome ſtrong pack-thread, at every foot diſtance I tied a ſmall piece of white woollen yarn, and thus continued the whole length of the line, which afterwards ſerved as a rule where to fix the plants.

This line was extended the whole length upon the outermoſt bed, ſix inches from the ſide ridge of it; then with iron-ſhod dibbles a madder plant was ſet ſtrong in the ground, near every tuft of white yarn fixed along upon the line.

This row being thus planted, the line was removed two feet forwards, which brought it exactly to the middle of the bed: this being alſo finiſhed, the line was again removed two feet, and planted as before; and this method I continued till the whole was planted. Thus there were three rows of plants in each bed, at two feet diſtance, and one foot apart in the rows; and the diſtance between the innermoſt row of one bed, and the outermoſt row of the adjoining bed, was three feet.

During the firſt ſummer I kept the young madder quite clear from weeds by hand-hoeing, as ſoon as any appeared; and in October following I took the haulm that over-ran the intervals, and ſpread it over the beds, without cutting any off; then with a ſpade I covered the haulm with the earth from the intervals about two inches thick.

In this condition it remained during the winter, and in March following the young madder came up very thick and ſtrong; and as faſt as any weeds appeared, I kept them down by hoeing, as before; but in the ſecond ſummer I found there was no neceſſity of repeating the hoeing after the middle of June, for the haulm was now grown ſo very luxuriant as entirely covered the ſurface of the ground, and thereby prevented the weeds from growing; and in October I again ſpread the haulm upon the beds, and covered it over with the earth in the intervals as before.

There are three good reaſons for covering the madder in winter.

The firſt is the new dreſſing of the beds with freſh untried earth.

Secondly, by this method deep trenches are formed at proper diſtances throughout the whole plantation, and conſequently the beds are kept dry and healthy, and thereby the roots are prevented from rotting, which otherwiſe they are apt to do, if the water continues too long ſoaking on the beds.

The third reaſon is ſtill more efficacious; for by this means, the haulm is entirely rotted, and the volatile ſalts con tained therein are waſhed down to the roots by the winter-rains, which tend more to encreaſe the vegetation of the plants, than double the quantity of any other ſort of manure whatſoever; and for this reaſon, becauſe the ſalt, inherent in the haulm, is of the ſame kind with that which was before extracted out of the ground, by the growing of the madder, and is now returned into the earth again, in order to renew its former office of vegetation.

This, perhaps, may ſeem new doctrine to moſt of my readers; but experience convinces me of the truth of it, with regard to madder.

If this hint was duly attended to, it is my opinion, that both farmers and gardeners would find their account in it, in the production of moſt ſorts of vegetables.

But to return more immediately to my ſubject.

In the third ſummer very little work was required, only two ſlight hoeings in April and May, owing to the ſtrength of the haulm, which covered the ground as in the preceding ſummer; and in October following, the roots were taken up, and this ſmall piece of ground produced one thouſand nine hundred and ſixty-five pounds of green roots*; which were very large, and the madder, upon trial, was found to be exceeding good.

In cultivating madder, great care is to be taken to ſee that every ſet or plant has ſome ſmall fibres at the root; and this ought particularly to be obſerved by thoſe who are employed in taking them out of the ground; for unſkilful perſons, not uſed to the buſineſs, very often draw up ſuch as have no fibres at all, and then they certainly miſcarry.

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* This is ſeventeen hundred two quarters and five pounds; and, in kind, at fifteen ſhillings per hundred, (which is a low price as madder now ſells) comes to thirteen pounds three ſhillings and two pence, being the produce of a quarter of an acre only; which ſum multiplied by four, makes the produce of an acre fifty-two pounds twelve ſhillings and eight-pence.

The beſt way is, to remove the earth from the mother plant with a ſmall hand-hoe, or ſome ſuch inſtrument; and then you may eaſily find which of the young plants has fibres, and which not.

In the ſecond ſpring, you muſt be cautious not to take off above two or three ſets from each root; but in the third ſpring when they are deeply rooted, you may take off almoſt as many as you pleaſe, without injury.

The ſooner the young plants are ſet after they are taken up, the better; and if you are obliged to have them at a diſtance, ſo that they cannot be ſet again in leſs than three or four days after they are taken up, they muſt be well watered at firſt planting, and repeated, as often as you ſee occaſion, till they have taken root.

In dry ſeaſons, the young plants very often die for want of moiſture ſoon after they are planted; and in large plantations the expence of watering would be too great; therefore I always get my land ready early in the ſpring, and wait for ſome ſhowers falling; and when I find them juſt at hand, and ſometimes in the rain, I get a great many hands, and immediately go to work, ſome * taking up, and others raking and planting; ſo that the whole is ſoon finiſhed, even in a large piece of ground; and when the plants are well watered at firſt, they ſoon take root, and afterwards they will ſtand a dry ſummer very well.

In the moſt favourable ſeaſons, ſome few plants always die ſoon after they are ſet; therefore, about three weeks after planting, you muſt go over your madder-ground, and replace ſuch as have failed,

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* Women are generally employed in this work; and two men will plant as faſt as ſix women can draw

with the beſt and moſt likely plants; and if the ſeaſon be dry, let them be well watered at firſt planting, but if, after all you find any miſcarry, (which in a dry ſummer, they ſometimes will do) the beſt way is to fill up the vacancies * with winter-plants in October following, juſt before you cover the haulm.

Madder may be ſucceſsfully planted from the middle of March, to the end of May, according as the ſpring is either forward, or otherwiſe; but if ſhowers ſhould happen to fall in April, this is the beſt month in the year for planting madder. There ſhould be no dung of

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* In September, or October, when the madder is dug up for uſe, you may obſerve, near the crown of the root, ſeveral branches thick ſet with ſmall buds, and ſome fibrous roots growing underneath: theſe, when cut into lengths of about three or four inches each, and planted any time during the winter, will grow very well.

N. B. They are called winter-plants by way of diſtinction.

any kind laid upon the ground during the time the madder is growing, becauſe it has been found to give the madder a bad colour; and if the land is in good heart, and proper for the purpoſe, there will be no need of it.

It cannot be expected, that any land, even the richeſt, ſhould produce repeated crops of madder; for which reaſon I am told that the Dutch always allow an interval of ſix or ſeven years, in which time they manure the land very well, and ſow it with corn or garden-vegetables, and have always large crops, owing to the deep ſtirring of the ground, and being clean from weeds; and I can, from my own experience, aſſert, that the beſt crops of corn always ſucceeded a madder-crop.

About five years ago, I planted an acre of madder on a light, dry, ſandy ſoil, which produced a tolerable crop, but nothing equal to the other.

I likewiſe tried it upon an acre of land, of a loamy, mellow ſoil, ſomewhat ſandy, about a foot deep in mold, and underneath is a cold, ſtiff clay; from this piece I had great expectations, as the plants thrived very well at firſt, but in the ſecond ſummer, when the roots reached the clay, the plants died away, and came to nothing; therefore I am well ſatisfied, a cold clay is by no means proper for madder.

I have alſo, at this time, two other acres of madder, which I intend to take up next winter; it will then have ſtood three ſummers. The ſoil is a deep hazel mold, worth about twenty ſhillings per acre. Inſtead of digging it with the ſpade, I plow-trenched it at leaſt eighteen inches deep, but managed, in all other reſpects, like the former. From the appearance it made laſt ſummer, I have no great expectations from this plantation, though I fancy, it will be a ſaving crop.

Expences attending the Culture of an Acre of MADDER, ſuppoſing the Land to be worth forty Shillings per Acre.

	l.	s.	d.
Rent for three years - -	6	0	0
Digging ditto at two-pence per perch - - - -	1	6	8
Dividing ditto into beds, two men one day, at one ſhilling each -	0	2	0
Raking ditto, two men one day, at one ſhilling each - -	0	2	0
Planting ditto with two thouſand plants, one day, at one ſhilling and ſix-pence each - -	0	3	0
Six women to take up two thouſand ditto, at ſix-pence each, one day - - - -	0	3	0
Hoeing the firſt ſummer five times	0	15	0
Covering ditto in autumn the firſt year - - - - -	0	6	0
	8	17	8

	l.	s.	d.
Brought over - - - -	8	17	8
Hoeing ditto the ſecond ſummer three times - - -	0	9	0
Covering ditto in autumn the ſecond year - - -	0	6	0
Hoeing ditto the third ſummer, twice - - - - -	0	4	6
To be paid in lieu of tythe, at five ſhillings an acre per annum -	0	15	0
Digging ditto out of the ground	5	0	0
Total expence -	15	12	2
As I always allow my people beer when they are about this buſineſs, I may add - -	0	6	0
Which brings the whole expence to - - - - -	15	18	2

In the above account I have not reckoned any thing for the plants; for though they coſt conſiderably at firſt, yet it is then done once for all, to any perſon who continues to propagate madder, as he has always a conſtant ſupply from his own plantations.

	l.	s.	d.
Produce of an acre of madder -	52	12	6
Expences - - - -	15	18	2
Clear profit -	36	14	4

IN the buſineſs of dying, a great deal of madder is uſed; and being of opinion that there are many uſeful diſcoveries now lying dormant, only for want of proper methods to bring them to light, I determined to try an experiment on madder; accordingly I took twenty pounds of the green root, and having waſhed it clean from dirt and filth, I bruiſed it in a large iron mortar, juſt before uſing, and with other ingredients I dyed half a pack of wool of a dark, full drab: upon examining my colour, I found it full as good as though I had uſed four pounds of the beſt umbro madder, imported from Holland; ſo that, according to this calculation, which is founded on experiment, five pounds of green madder root are equal to one pound of dry manufactured madder; and as I have found this method to anſwer, I have continued to uſe the root in this condition ever ſince, and find it much the beſt and cheapeſt way; for the green root is bruiſed very eaſily in the mortar, and thereby ſaves a great expence in drying, pounding, &c.

Before I quit this ſubject, I would adviſe thoſe perſons who are inclined to cultivate madder, to be very cautious in the choice of land for this purpoſe, for hereon their ſucceſs chiefly depends. Madder being a plant that draws a great deal of nouriſhment, conſequently the richeſt and deepeſt lands are to be choſen.

If the Engliſh farmer ſhould be excited to ſo laudable an attempt as to cultivate this uſeful commodity, he will probably find the directions here laid down not only uſeful, but neceſſary, as being the reſult of many years experience.

To preſerve green madder-root, cover it over with ſand, or dry earth, till you have occaſion to uſe it. And I have reaſon to believe it might be ſecured in this ſtate for many years (without injury) on a dry earthen floor.

The above are experiments made by a ſenſible man; and as he is both a grower and conſumer of this plant, he muſt be a more able inſtructor in the culture of this uſeful commodity, than I can pretend to. I am ſo far convinced by ſelf-experience, that clay-ground is not good for madder, becauſe its conſolidated cloſe nature confines the water about the root of the plant in winter, and chills or rots it; and in ſummer it will bake and bind it ſo faſt that it cannot ſpread or grow; neither is light, hot ſand good for it, becauſe by its open, porous, looſe nature, the ſun quickly exhales the moiſture from about the root of the plant, ſo conſequently robs it of the ſupply of its life, or at leaſt reduces it to a ſickly weak condition.

A deep, black, loamy hazel earth is the beſt of all others; and a maiden-ſoil is better than old tilled land: the ſod by trench-plowing muſt be turned to the bottom of the furrow, about two feet deep, and there it rots, and becomes a maſs of manure to nouriſh and feed the tap-root; and the nature of this plant is ſuch that the deeper the tap-root goes, the greater and better top it will produce: in ſhort, there are few towns in England, Scotland or Ireland, but what have ſpots of land, belonging to them ſuitable for this plant, and might be cultivated to great advantage to the farmer, dyer, and to the public in general, by keeping a great deal of money at home, which annually goes abroad for this commodity.

CHAP. XV.

General Remarks on Stock-Farms, and the different State of the ENGLISH and IRISH Farmer, Poor, &c.

AS this chapter is chiefly intended for my Iriſh readers, the Engliſh may diſregard it if they pleaſe.

My long acquaintance with, and frequent travels through Ireland, have given me a knowledge of the lands, inhabitants, and conſtitution of the kingdom in general.

I muſt own my ſurpriſe was great, on my firſt journey into the country, to ſee about three fourths of the inhabitants living in little huts or cabins, built of ſods and covered with ruſhes, flax-ſhoves, or the like, not ſufficient to keep out a ſhower of rain, and that a man can ſcarcely ſtand ſtraight in; yet they are perhaps inhabited by eight or ten men, women and children, half naked, and whoſe chief ſupport of life is potatoes and butter-milk; their bedding nothing but ſtraw or ruſhes, and this ſometimes in a ſparing manner.

No wonder then that a ſcene like this ſhould ſhock an Engliſhman, who had not before ſeen even the brute creation live and lie worſe.

The high roads alſo are ſtocked with beggars, whoſe cant-prayers and cries are enough to ſhock the frame, and grate the ears of thoſe who have in them any fellow-feeling.

Indeed I have read of ſuch unhappy wretchedneſs ſubſiſting amongſt the ſavages or Hottentots, but did not expect to find it ſo near home.

Such an unexpected ſcene amongſt my brother-chriſtians, naturally led me more minutely to pry into the commerce or trade of the kingdom, in order to find out the ſource of their wretchedneſs, and found they were rather to be pitied than condemned, as the ſcarcity of work may be conſidered as a real misfortune both to them and the kingdom in general. The poor, however, feel it moſt ſenſibly.

The above deſcription of the Iriſh poor, is too truly their unhappy caſe: and although the gentlemen of Ireland (whoſe benevolence and charitable diſpoſitions are unqueſtionable) labour indefatigably to cure theſe grievances by giving premiums, building large poor houſes, &c. yet with humble ſubmiſſion, I apprehend the malady is every day growing worſe; and it is to be feared, will continue till ſome method is taken to put a ſtop to theſe overgrown ſtock-farms.

Theſe are the chief and real bars to the riches, proſperity, improvement, induſtry, good morals, regularity, cloathing, and feeding of the poor of Ireland.

I have travelled through the kingdom many times within theſe twenty years, and particularly within the laſt two or three years, have been very minute in my obſervations; and it appears to me as clear as the noon day, that theſe large overgrown grazing, or ſtock-farms, ever were, are, and will be the ruin of Ireland, or in ſhort any other country, where they get footing, and I am ſorry to ſay England is coming too much into them.

They are a ſtagnation to trade and improvement; for what improvement do three or four thouſand bullocks (which occupy more acres of land) create or require. In ſhort, they do in a manner lay waſte a country, as four or five families are ſufficient to take care of this tract of land, and number of cattle.

It is a known truth, that the riches of every country depend upon the labouring part of its inhabitants.

On theſe every branch depends that is neceſſary for the uſe of man, whether for back or belly.

But in ſuch waſte countries, the poor are deprived of all manner of means to be uſeful either to themſelves or the public, they muſt either ſtarve or turn out to beg or ſteal, or perhaps both.

This is too truly the ſtate of the caſe, which I am ſorry for, as it muſt affect every individual in one reſpect or other: and the very graziers themſelves are not making the beſt either of their land or time: they only live from hand to mouth.

It is true they live well, and drink punch and claret, but few of them (though they hold from five hundred to five thouſand acres) can portion five or ſix children with a thouſand pounds apiece.

Then is it not a ſhame, that a man ſhall take up ſuch a tract of country, to ſo little utility for his family, or the public good?

In ſhort he has nothing to plead in his behalf, but that he gets his living in an indolent eaſy manner, for ſays he, corn is troubleſome; and if you tell him how well the Engliſh farmers live by it, he again anſwers, that they have free exportation, better markets, &c. a cock and a bull, a ſtory he knows nothing about.

Likewiſe, ſays he, land in Ireland is too dear to pay rent by corn; mere deluſions, and phantoms, to fright and keep him from purſuing his own intereſt; but I aſſure him theſe arguments are falſely grounded.

Can any man ſay, and prove that he can make ten pounds an acre by grazing; and will not land worth twenty ſhilings an acre by proper tillage, bring ten barrels or forty buſhels of wheat worth ten pounds?

Note, an Iriſh acre is one third larger than an Engliſh one.

But if we make a compariſon between the loweſt crop in value (which is oats) we ſhall find it will have the advantage of grazing above two to one. As for inſtance, how common is it for a grazier in Ireland to let his land in corn-acres for three or four years together, the firſt for graſs-potatoes * at five pounds an acre, and for two or three crops following, at three pounds an acre for oats, and this is to a poor man who has both plowing, ſeed,

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* Set on graſs ground without dung, in the ſame method as I have pointed out in the foregoing part of this work, that the Iriſh ſet potatoes.

and labour to find, and his family to maintain out of that acre?

Then certainly ſuch an acre muſt make ſix or ſeven pounds at leaſt, to pay all expences, and maintain his family.

If ſo, it muſt make more to the farmer who has teams or carriages, &c. without hiring: but here again he is pleading indolence; for, ſays he, it is eaſier to count three pounds in caſh, than to manage an acre of oats.

Now ſuppoſe he ſits down with the worſt hand he can make of his land, namely, the three pounds an acre; yet it is double what he could make by grazing, for the grazier thinks himſelf well off, if he can make thirty ſhillings an acre throughout his farm.

There is no ſophiſtry in this; it is all plain and clear to a weak underſtanding, that corn has the greateſt profit.

Further, the Iriſh farmer is miſtaken when he ſays or argues, that the bounty for exportation gives the balance in favour of the Engliſh farmer.

How can this be? Is not every commodity worth what it will bring? Does not the corn-factor find out the higheſt market to ſend his cargo to? And does he not alſo find out the loweſt market to lay in his cargo? And if he buy it in England, muſt not that be the loweſt market? And if he brings it to Ireland, is not that the higheſt market?

If this reaſoning will not ſtand good, a merchant could not trade; for the bounty-money will not pay the expence and freight, let alone profit and hazard.

But, ſuppoſe there was a great advantage in it, the farmer gets it not; he ſells it at the loweſt market, as there are ſeveral traders to get a living by it after it parts from him, ſuch as the merchant, mariner, broker, &c.

Therefore it is plain his corn is going to a higher market; and if that be Ireland, certainly the Iriſh farmers have the profit of all theſe branches, becauſe he is at home in the higheſt market, where all thoſe have a living to get by trading thereto.

Indeed, if Ireland was to raiſe more corn than ſhe could conſume, ſo as to reduce her market lower than any other, then ſhe might cry out for a foreign trade with authority.

But however, this is not the caſe; for I have known Ireland for more than twenty years, and always found her markets higher, by ten or fifteen per cent. than in the corn counties of England. I do not mean Liverpool; for there corn generally bears the ſame price as in Dublin, as it is as eaſy to import corn from the interior parts of England to Dublin, as to Liverpool; for Lancaſhire and Cheſhire are no corn-countries, their produce being chiefly cheeſe.

Now, we ſee by the above, that the Iriſh farmer has a great advantage over the Engliſh, both in point of market and rent.

For by the niceſt calculation I can make, I find the lands of Ireland are cheaper or lower than in England, conſidering their goodneſs and meaſure. For ſuppoſe the beſt and ſmootheſt land in Ireland be upon a par, at twenty ſhillings an acre Iriſh meaſure; by the ſame rule, the beſt lands in England will only be at about twelve ſhillings an acre Engliſh meaſure.

Beſides the taxes in England are higher, and labour nearly double the price: this is all on the Iriſh farmer's ſide.

Now perhaps my Iriſh readers may think I talk like a traveller, when I tell them that an Engliſh farmer who never farmed more than one hundred a year, ſhall expend twice as much meat in his houſe, and ſave more money (in a general way of ſpeaking) than an Iriſh grazier that pays from 1000 to 1500 l. a year rent. Nay, in ſhort I know ſeveral fifty pounds a year farmers that are worth more ready money than ſome Iriſh graziers of two or three thouſand a year rent. This I believe will be aſſented to by any gentleman that knows the two kingdoms.

Then certainly the Iriſh grazier will never pretend to ſay that grazing is able to pay the higheſt rent, or make the moſt money in any degree.

But however, that he may be the more clearly convinced, let him caſt his eye over the different tables in this work, to ſee his folly.

He will likewiſe ſee that the corn-farmer will not diſpleniſh himſelf or the country from cattle, becauſe he can breed and feed as many as will keep up a proper ſtock.

Nearly the ſame compariſons may be made between one part of England and another, for really it is a very ſtriking malady, and muſt concern and trouble any one who knows the conſtitution of his own country, to ſee farm laid to farm, and put into the hands of a grazier, who ſtocks it with bullocks and ſheep, and turns out a great many ſmall farmers, who uſed to maintain a large family, to work labouring work or ſtarve.

CHAP. XVI.

On FLAX.

THERE are ſeveral denominations of flax, as follows:

1. White flax.
2. Seed flax, in imitation of white.
3. Black, or bunch-rate, in imitation of blo, or black Dutch.
4. Dew-rate flax.

Theſe require each a different management, therefore I ſhall treat of them ſeparately, except what relates to land or ſowing, which will be ſet forth in this chapter.

Though flax is a nice crop to bring to the hackle in full perfection, yet as to the growing part, there is nothing more eaſy; and as the climate and lands of England, Scotland, and Ireland, are really very good for this crop, together with the high price that flax and its ſeed bears, and the great encouragement given by the government to the Honourable Linnen-boards of Ireland and Scotland, will, I hope, with the aſſiſtance of the following hints, make this branch flouriſh in theſe two kingdoms.

Indeed, it muſt be allowed, that the linen-branch in Ireland (take it from the hackle to the bleach-yard) has arrived to a height almoſt to rival any other nation, thanks be to the worthy, honourable, and indefatigable gentlemen in truſt thereof.

But as to the raiſing flax and ſeed, we may juſtly pronounce Ireland to be in her infancy, inſomuch that ſhe runs counter to every part that ſhould make for this ſo valuable a branch.

However, ſhe is rather to be pitied than blamed, as ſhe has always been kept in the dark, not having either perſonal, or even theoretical leſſons to go by. It is as clear as the noon-day, that no author has ever treated on this ſubject that really underſtood one half of it; for it is almoſt impoſſible for any perſon above a common labourer to be a true judge thereof.

If this be the caſe, (as it certainly is) how is it poſſible for a gentleman-writer, bred up, perhaps, in London, or ſome other great town, to give thorough leſſons, himſelf knowing no more than what he gathers from this and that hearſay?

On the other hand, this branch was never likely to tranſpire by perſonal leſſons, as I doubt whether there be a man in Ireland, that really knows how to bring a ſtone of flax to its full perfection fit for the hackle. I have travelled all Ireland over, but never as yet ſaw an inſtance of it.

What can we ſay then, is not this a heavy clog upon the main wheel? Are not we rowing on troubled waters, by fetching our materials from abroad, in a dear and hazardous manner.

Though I was brought up in the midſt of a flax country, where every farmer round me had, perhaps from five to twenty acres, and though I grew a great deal myſelf, and paid cloſe attention thereto, yet I found myſelf greatly deficient, till I betook myſelf to the manual part thereof; and though I was as great a proficient as moſt of my neighbours, yet when I came to grow flax in other countries, and make uſe of other waters, &c. I found I had more experience to gain, before I was thorough maſter of it, which coſt me very dear, as will appear in the following ſheets.

The thorough knowledge is not to be got without repeated experience, a cloſe and even laborious application.

My experiments tell me, that old lay-land anſwers beſt for flax, as it is generally free from weeds, and is leaſt ſubject to lodge, and alſo produces a finer and thicker ſkin, likewiſe not ſo apt to have cankered ruſty black ſpots in it; beſides flax on ſuch land, is a good preparative for wheat, as it hardly ever miſſes of a good crop.

All ſorts of fallow or ſtubbles, provided they be inriched with any kind of manure, will bring flax; but as lay-land (for the above reaſons) is ſo much better, I would adviſe my reader to make it his choice if poſſible.

Avoid rating flax in limeſtone water. This piece of experience I paid very dear for, though it never fell in my way but twice, namely in Ireland and Wales; in the firſt I had my choice of two ſorts of water, limeſtone and bog; the latter was inconvenient, but the limeſtone very near, being a fine ſtanding pool under a limeſtone quarry.

As I had never heard any thing againſt ſuch water for flax, I had very nigh determined with myſelf to water in it; but on ſecond thoughts, as I was not neceſſitated, I thought my flax too good to be riſqued by experiments; therefore I eſcaped for that time.

In Wales, however, I had not the ſame good fortune, though I did not run into the trial deſignedly.

Through my land run a ſmall rivulet, which traverſed ſome low meadow-fields; in two of theſe fields, I made in each a flax-pit by the ſide of the river, which I could fill at pleaſure.

At a ſmall diſtance was a limeſtone-quarry, out of which came a ſpring, which helped to feed this rivulet; one of the pits was oppoſite to the ſpring, and the other above it: ſo that I could turn the ſpring below both the pits into the rivulet; which I accordingly did.

Thinking myſelf well provided with water, into each pit I put four acres of good flax, ſodded and treaded as uſual; but ſome perſon (whether for miſchief or not, I cannot ſay) opened the dam that was oppoſite to one of the pits; thus they ſerved me three nights ſucceſſively. It had been ſeven days in the water when this happened, but ſcarce began to rate, as I tried it every day.

I immediately found the bad effect of the limeſtone-water: upon which I took it out the fourth day after this happened, being in the pit only eleven days; but it was quite ſpoiled and rotten, except ſome bits in the middle of a ſheaf, or in the corner of the pit where the lime-water had ſcarce reached; and this was green and nothing better for going into the pit. In ſhort, it was ſpoiled to ſuch a degree that I never made uſe of a handful of it.

The flax in the other pit that eſcaped the lime-water, lay there five weeks, and got no more than a ſufficient rate, and was ſo good, that I ſold ſome of it for ſixty four ſhillings a hundred weight in the rough.

The long time that this lay in the water, ſhews what difference there is in water: for I had ſome water in the ſame land that watered flax well in twelve days; and I have had water in other countries, that has rated flax well in ſix days.

My experience of deep water coſt me yet dearer, as I loſt upwards of two hundred pounds worth by it in one year, for the quantity was very large.

This was in Cheſhire, where marl-pits are very plenty, and ſome of them very large and deep.

I always knew that flax never rated kindly in deep water, but never ſo fatally experienced it as here. The ſurface is warmed by the ſun, which will ſet the upper part of the flax a rating two or three days before that which lies four or five feet deep.

This is one great reaſon, why it is ſo neceſſary to tread the flax in the pit, in order to mix the water, that it may rate even, or in all parts alike.

The water in theſe marl-pits in Cheſhire is very good for rating flax or hemp in, where they are of a moderate depth, but they are often from ſix to fifteen feet deep.

By a miſtake in a direction, I had ſeventeen large waggon-loads of choice good flax put into one of theſe large pits; the conſequence of which was, that I in a manner loſt the whole. But indeed this was not the only time I ſuffered by deep water.

It is much the ſafeſt way to make pits to a proper ſize, if there be none by chance that are ſuitable.

In Lincolnſhire, it is very common for labouring men to dig pits on the commons, and lett them to farmers at ſo much a year for rating flax in; not but the farmers have the ſame privilege of making pits, but they may buy them from a poor man cheaper, as he makes them at ſpare times when he has no other work.

It is common for a poor man to ſell a pit that will hold ſeven or eight acres of flax, for three half-crowns, and ſo in proportion.

CHAP. XVII.

Directions for Plowing, Harrowing, Sowing, Watering, Pulling, Graſſing, and full Management of WHITE FLAX, till brought to the Hackle.

THE ground for flax being fixed upon, you muſt begin to plow about the firſt of March, with a furrow of about nine inches broad, and between four and five thick. Take care that all the land be clear cut and turned, and that it lie flat and even, with the graſs ſide downwards. If the ground be ſtony, or the plowman bad, men with ſpades muſt follow the plow to turn what it miſſes.

By the middle of March the plowing muſt be finiſhed; and it muſt then be well harrowed to raiſe plenty of mold, and to ſcratch the roots of the graſs, in order to kill and ſet them a rotting. By this they will become a rich manure for any other crop that may follow. When thus harrowed, gather all the ſods and ſtones, and throw them into the furrows. When this is done, ſow the ſeed at the rate of eight pecks to an Engliſh acre.

Lady-day, or as near it as the weather will permit, is the beſt ſeaſon for ſowing flax-ſeed. When ſown, turn the harrow the wrong end foremoſt, and run the ground over once in a place.

When the ſeed has been about a month ſown, roll it, and in about a fortnight more weed it; but if it be lay-land, there will not be many weeds: however, it muſt be gone over, and none left in, as they are very pernicious enemies to flax.

Being well cleared from weeds, the buſineſs is over till pulling-time, except it be a very ſtrong crop, and a rainy ſeaſon: in this caſe it will lie down or lodge, and not feed well, but be apt to ſpoil before it is ready to pull.

The only help againſt this, is to ſend two men, one at each ſide of the ridge, with turning-rods, about the ſize of rake-ſhafts; they muſt put the rods under the top of the flax, raiſe it up, and turn it over.

This is not very expenſive, and will prevent it from mildewing, and otherwiſe greatly help it, till it be ready for pulling, which muſt be as early as poſſible: for this ſort, above all others, muſt be made into white flax, though indeed it will never be ſo good as that which ſtands upright, as it will not feed well; and the ſheaf being ſoft, is apt to flat in the working, and not part freely from the harl: the ſkin of ſuch flax always is thin and tender.

This ſort generally grows on rich land, or under hedges in a warm ſituation, which draws it up tall and weak. This makes it neceſſary to divide your crop into white and ſeed flax, as almoſt in every field there is a variation, which may be laid out for both ſorts, in a profitable manner, provided it be done with judgment, and rightly timed.

As there are ſeveral ſorts of flax that may be made, and that every ſort requires a different management, I will firſt conduct my reader through the management of the white flax, from the pulling o the ſwingle-ſtock.

Your crop proper for white flax being fixed upon, if it anſwers the following tokens, it is ready to pull, viz.

If the ſeed be perfected in ſhape, but not half ripe; if the leaves begin to wither and fall off, about one third of the ſtalk from the bottom upwards, if the ſtalk turn a pale yellow; if the buttons or boles will ſtrip, each ſeparately, and take them with a ſtring of flax to the root without breaking.

The laſt experiment holding good, is a ſure ſign that nature has done her work by giving the flax a good ſkin, and that it continues all the way up to the top of the ſtalk; for ſometimes it does not get ſo high. If theſe remarks concur, your crop is ready to pull, and you may fall to work.

Make your ſheaves to the ſize that a band of about eighteen inches long will reach round them. Make the bands of the ſmall under growth of flax and weeds, in order to ſave the good flax, as the water renders it of little uſe if it be knotted when rating. Be mindful in pulling, that you do not place your hands too low down ſo as to pull up any weeds, or undergrowth of flax, which will ſpoil the good both in watering and working. The ſmalleſt part of the flax is cloſe under the boles; this is the place to take hold of for pulling.

Your hand being thus placed, what does not reach ſo high as to be taken hold of, is of no uſe; leave it on the ground, rather than ſpoil the good with it. As much as is pulled one day, muſt be put into the water the next; for if it be too much dried or withered, the conſequence is bad.

The water moſt proper for rating flax is that of the ſofteſt nature; bog-water is good, and ſo is that of a clay or marl bottom. But above all, take care the water does not come through or from limeſtone quarries.

You ſhould make choice of no larger a pit than what will barely contain your flax; for the leſſer the quantity of water, the better it will rate. The pit ſhould not exceed three feet and a half deep, and about fifteen broad; the length to be proportioned according to the quantity you have put therein.

It is further adviſeable, to have three or four partitions acroſs your pit by the way of dams, (which partitions are eaſily left when the pit is making) and theſe will prevent the communication of any exceſs of water.

When you begin to put the flax into the water, lay the firſt row acroſs the end of the pit, with the root-end uppermoſt; but lay all the reſt with the ſeed-end uppermoſt, and let no part of the flax but the ſeed-end be ſeen; for before it is preſſed down, it will ſtand almoſt upright it the pit.

If one ceſs or row be not ſufficient to fill the pit, lay on another and another; but the water ought to be no deeper than that three rows at the moſt will fill it. It muſt be filled to ſuch a firmneſs, that a man may walk all over it with his ſhoes on without being wet.

Being thus in the pit, begin at the place you left off laying the laſt row, to ſod it. Lay the ſods cloſe to each other with the graſs-ſide downwards, ſo that the leaſt bit of the flax may not be ſeen. The ſods muſt be cut thin, not above two feet long, and one broad; and they ought to be ready at the pit ſide before your flax is pulled.

Your flax being thus ſodded, you ſhould tread it ſo as to fetch water above all the ſods. But if it be ſunk ſo ſtiff, that the treading of one man can't get water over the ſods, let three or four ſtand together, or one man carry another on his back.

This often happens to be wanted, particularly when the flax begins to work and ſwell in the pit, as it will do two or three days after it is put in.

I never had flax better watered than when it took a great weight in treading. I often trod it with an horſe, and when he diſordered the ſods, I always took care to lay them right again.

It muſt be trod three times a day, namely, morning, noon, and night: the more it is trod, the better it is, as it mixes the warm ſurface with the colder bottom-water, which makes it work like new ale in a guile-vat, which works the faſter the oftener it is ſtirred or trod.

This may ſeem an odd compariſon to thoſe that do not underſtand it; however, it is fact, for it will froth and work up ſurpriſingly in the time of its rating, and particularly juſt after treading. Let no water in, or out of the pit, while the flax is in it, as the current of the water would chaff or ſpoil the ſkin of the flax, while it is in the pulpy ſoft ſtate.

No certain time can be fixed that it will take in the water; circumſtances in this caſe differ, reſpecting the heat or coldneſs of the weather, the ſoftneſs or hardneſs of the water, or the goodneſs or badneſs of the flax; for good flax will take more rating than bad.

I ſometimes have had flax as well rated in ſix days, as at other times in a month; ſo much do circumſtances differ; for the poorer the ſubſtance or the body of flax is, the ſooner it will rot, ſo conſequently will take leſs time in the water.

The following tokens for the well rating of flax are to be obſerved.

As ſoon as it is put into the pit, it begins to ſwell, and ſo continues till it is at the height of working; and after this it falls till the water comes over the ſod.

When it has been about five days in the pit, take out a ſheaf, and try if it be very ſlippery, and if the ſtalks break and ſtart out of the ſkin when doubled, and if the ſkin peel freely from the ſtalk, alſo if the ſeed or boles ſhake off with freedom: theſe are all ſigns of its being, duly rated; but the ſafeſt way is to take a piece out every day, and dry it on a buſh; when dry break and ſcutch a handful; and then if the ſtalk break and part freely from the ſkin, it is a ſure ſign of its being ſufficiently rated. All theſe tokens will aſſiſt you in this material point of rating.

Your flax being thus rated, take it out of the pit, and let it drip a day on the pit ſide. Be careful that it be laid ſtraight in pulling it out of the water, for the doubling of it when wet, will chaff and damage the flax.

When it is drained, carry it to the ground for ſpreading. Caſt the ſheaves at about the diſtance of two yards from each other; and in the caſting let care be taken that they do not fall on the ends in a break-neck manner.

Let the ſpreaders begin at one ſide of the field, and lay the firſt row ſtraight, or it will diſorder the whole. Spread it thin and even without lumps, or croſſing, and with all the heads one way.

The beſt land for ſpreading it on is meadow, lately mowed, or for want of this, a paſture field clear of thiſtles, docks, &c. which would keep the flax from the ground, and give the wind an opportunity to blow it away and ravel, whereby it would be rendered of little uſe.

Bog might do for ſpreading on, but the forementioned grounds are preferable; moreover, it ſerves to fertilize the ſoil, by the oily ſlimy ſubſtance being waſhed from the ſtalks by the rain.

When the flax is thus ſpread, let it lie about eight or ten days, till you obſerve the ſkin to riſe from the ſtalks at the top-branches, where it is crooked, or has a bend; in theſe places the flax will riſe from the ſtalks, and almoſt reſemble fiddle-ſticks, by the hair being ſtretched along it: when this comes to paſs, take care to turn it with turning-rods prepared for that purpoſe, about the ſize of a rake-ſhaft, running them under the top-end of the flax, and turning it over, leaving it in the ſame poſition as before, thin, ſtrait, and clear of lumps.

A good hand will turn two or three acres in a day. It is not to lie as long after turning as it did before; but, however, it is neceſſary to get ſome dews or rain on the upper part, in order to give it an even colour on both ſides before it is taken up.

Sometimes it happens, when the flax is taken too ſoon out of the pit, that it muſt be turned two or three times on the graſs, in order to bring it to a right conſiſtence for working.

Take particular care that the worms do not damage the flax, by drawing it into the ground and chaffing it, which ſometimes happens, particularly in ſpring-rates, and where the ground is bare of graſs. I have ſeen great damage done in one night by the worms in this caſe.

When you find your flax anſwer to the above deſcription, of riſing from the ſtalks like fiddle-ſticks, in crooked places, &c. it is well watered and graſſed. Take it then into the barn for breaking and ſwingling.

But before I go any further, let me caution my brother-farmer to be particularly careful, through all operations, to keep his flax ſtraight and even at the roots, and the root-ends all one way; this being a very neceſſary precaution, in order to make it yield well to the hackle, work eaſy, and ſell well, &c.

As I have now done with the white flax till the breaking and ſwingling, I ſhall drop it for the preſent, and proceed to the ſeed flax in imitation of white.

CHAP. XVIII.

On SEED-FLAX.

THERE are ſeveral reaſons to be given, why the ſeed flax has not a right to be ſo good as white flax, or ſuch as is watered with the ſeed on.

Firſt, we are to conſider that flax-ſeed is of an oily nature, and that this ſubſtance is conveyed through the ſkin, or baſt (as it is called by ſome) up to the ſeed; and when it is on its journey, as it were diſperſed through the length of the ſtalk, it is pulled for white flax, by which it is ſtopped of circulation, and the oil in the ſkin remains there, inſtead of reaching to the ſeed.

The intent of watering or rating flax, is to rot the ſtalks, in order to make it part freely from the ſkin, when dreſſed: as alſo to ſoften, purge, and cleanſe, or diſcharge any unkind harſh matter from it; but the oil being ſo ſtagnated, preſerves the flax from rotting in any reaſonable time, not letting the water have the power over it, as it has over a poor ſubſtance: were it poſſible to extract all the oily ſubſtance from the flax, it would be left as poor as the ſtalk whereon it grows, conſequently would rot in the ſame time, and be rendered as uſeleſs.

This confirms my opinion, that the leſs quantity of water the flax is rated in, the better, ſilkier, and ſtronger it is made by the oily ſubſtance which is permitted to remain therein; for the beſt particles gather and cling to the ſtrongeſt body, (being the flax) which makes it weigh heavy, adds to the ſtrength, and makes it of a kind, ſoft, ſilky nature.

I am confident, were a parcel of flax ſeed thrown into one of theſe pits, for ſome conſiderable time before the flax was put in, ſo that it might have time to incorporate with the water, it would have a happy effect, and conſiderably add to the goodneſs of the flax. I do not ſay that it would be worth while to do this, further than by way of experiment and proof.

I have thrown chaff, that has had ſome light ſeed amongſt it, into a pit, and found it to be of ſervice.

An old pit that has had flax watered in it ſeveral years, is far better than a new-made pit; and one that has had white flax with the ſeed on, watered in it, is better than one that has been uſed for bunch rate, or flax that has had the ſeed taken off, only that it turns it a dark blue colour, which, by the bye, is better than a bad white. All this I have ſeen experienced by others, as well as myſelf.

Now, ſeeing it is ſo abſolutely neceſſary for the good of the flax to preſerve this oily kind nature in it, in order to keep it from rotting, and make it kind, ſoft, and ſilky, what a piece of abſurdity it is to drive it out by drying it over the fire, as is univerſally practiſed in Ireland; and indeed by ſome unſkilful farmers in England too, where they are ſtrangers to the true method.

In ſhort, it is rendered harſh and brittle, ſo that it loſes conſiderably in its real weight and goodneſs, and thereby loſes in its value.

In order to be convinced of this, weigh as many ſheaves as will (when broken and ſwingled) make two ſtone; one half of which dry over the fire, the other half dreſs without, and it will be found that when both are dreſſed, the difference in weight will be from a pound and a half to two pounds; a great loſs in ſo ſmall a quantity of flax.

The experienced flax-farmers are ſo ſenſible of the real evils that attend drying it, that they will not ſuffer theirs even to be dried in the ſun. It is true, when it is taken up off the graſs, it is dry, though indeed ſome chuſe to take it up in an evening, when the dew is falling.

No one that is not neceſſitated will offer to dreſs any flax, till it gets a ſweat in the mow or ſtack, which adds to its ſoft ſilky nature, as well as weight; and after this ſweat, it is never ſuffered to be (as above) dried in any caſe.

But then we are to conſider that the Engliſh flax-farmers are true judges in rating their flax; which if not done properly, it is hard to be dreſſed well, even with fire, and much more without.

There are alſo other kinds of tools to break and ſwingle it with than any in Ireland. The quantities that are raiſed in ſome parts of England and Holland, could never be manufactured in ſuch a paltry manner: were fire of no real damage to it, it would add ſo much trouble and expence of drying, &c. to a farmer's other buſineſs, that it could never be duly attended to.

One acre managed in the Iriſh manner, would give as much trouble as an hundred would in the right method: for when it is once in the barn, it is ſcarce of ſo much trouble as corn, having no more to do than to agree with men to work it; and this is moſtly a ſet price, except it miſſes of a good rate, (which may ſometimes, though rarely happen) or if the flax be very ſhort; in this caſe there is a conſideration of a higher price. The common rate for dreſſing white flax, is fourteen pence a ſtone, for breaking and ſwingling; and ſixteen-pence for ſeed or bunch-rate.

High or low wages vary according to the cleverneſs of the workman, from the difference of a ſhilling to three in a day; for there are ſeveral degrees of workmen; a good workman is as well known thro' the flax-countries of England and Holland, as a juſtice of the peace, or a ſheriff in an Iriſh county.

It is neceſſary that a farmer look over his ſwinglers ſometimes, to ſee that they make no waſte; as alſo, that they dreſs it clean, for on this his ſucceſs and ſale in the market depends.

Some workmen will make the ſame flax ſell higher that others by ſix pence or eightpence a ſtone, and all the flax-buyers know the good workmen by the lapping or making up of the flax.

A good workman is ſeldom made, if he does not learn when young. It is far eaſier to make a good hackler than a good ſwingler, though the former is a trade of apprenticeſhip, and the latter is not.

The ſwingler generally has a pair of ſcales by him, and weighs the flax as he dreſſes it, then takes it in to his maſter who ſeldom weighs it, till he gets two or three packs together, to take to the market.

A great deal depends on giving flax a good even colour for fetching a good price in the market. Let the colour be what it will, it ought to be of one ſort; not to be ſtriped or ſpotted with black and white, or green and white, grey and blue, or green and yellow, &c.

The misfortune of theſe mixed colours is got before it goes into the water, particularly if it be ſeed-flax of any kind; for the prevention of which, I ordered ſeed flax, in imitation of white, to be ſtacked with the ſeed-end outwards: this prevents the outſides of the ſheaves from being weather-beaten, which will turn them black or grey, ſo that it will always be of a quite different colour, from the inſide of the ſheaf, but the ſeed being outwards, can take no damage, but will ripen or dry the faſter for it.

If the bunch-rate flax get a mixed colour, it is for want of ſpreading even and clear of lumps after the pullers. The ſame evil the due-rate is ſubject to, if not properly ſpread: but it may happen to white flax two or three ways.

Firſt, when it is pulled, if it ſtand too long to dry before it is put into the pit.

Secondly, if it be not well and cloſe covered in the pit with ſods, and duly trod.

Thirdly, if it be not ſpread even and clear of lumps in the time of graſſing.

All theſe cautions a farmer ought to be armed with, if he means to bring this valuable branch to its full perfection.

CHAP. XIX.

The Pulling, Watering, and Management of SEED-FLAX, in Imitation of the WHITE.

THE ſeed-flax muſt ſtand about three weeks longer than the white. It will ſhew itſelf to be ripe by the leaves fading and falling off, and the boles turning brown; but beware of letting it ſtand till the ſeed in the bole turns brown; for if you do, the ſeed will be nothing better, and the flax a great deal worſe. It is a great miſtake to let the ſeed-flax be over ripe.

Obſerve the ſame directions in pulling the ſeed-flax as for white, only make the ſheaves a little larger; ſet them up in a propping manner, three leaning to each other. In three or four days after, if the weather permits, make them into ſmall field-ſtacks, no larger than you can reach without getting upon them.

Make them like corn-ſtacks, only with this difference, that the ſeed-ends muſt be outwards, in order to dry the ſooner, and keep the ſtalks from being weather-beaten.

Thus let them ſtand about a week, and then make them over again, by which means the top of the ſtack will become the bottom. Lay a little weeds, or the under-growth of flax on the top of the ſtack, in order to make it caſt the rain, and keep the upper ſheaves from the ſun and weather.

A few ſheaves turned brown or grey, would ſpoil a great parcel, in the beauty of its colour, for let the colour be of what ſort it will it ought to be even, or elſe it will not bleach even when in cloth, which is impoſſible to accompliſh without great care before it goes into the water.

Let the ſtack ſtand, after it is turned, about ten days; after which take it into the barn, and ripple the ſeed off with rippling combs.

Being thus rippled, tye it up in ſmall ſheaves, and water it in the ſame manner as directed for white flax; alſo obſerve the ſame directions to know when it is rightly rated and graſſed; in ſhort, rate it in every caſe as directed for white flax.

As to the ſeed, it may lie in the chaff or boles all winter, till it is wanted in ſpring;

at which time riddle it firſt thro' a wide riddle, in order to take out all the long ſtraws, pulſe, &c.

This done, take it to the mill, and ſhell it as you would oats. This is a ready way of taking the ſeed out without waſte; and on the ſhelling, it may be winnowed at the mill, without the trouble of taking the dirt back.

I ſhall ſpare myſelf the trouble of giving any directions about winnowing, as moſt people are perfect in that art; as it is winnowed in the ſame manner as corn, ſaving only as to the ſieves, which muſt be ſuited to the ſize of the ſeed.

And now, gentle reader, pleaſe to accompany me, once more, to the field of pulling, and I will ſhew you another, and a more general way of raiſing ſeed-flax, which is in imitation of black or blo Dutch: but in truth, I have ſeen and reared better and higher-priced by the following management, than ever I ſaw come from Holland.

Obſerve, that ſeed flax of all ſorts muſt ſtand till it comes to the ſame degree of ripeneſs before it is pulled.

CHAP. XX.

Directions for the Management of BLACK or BUNCH-RATE FLAX, in Imitation of BLO or BLACK DUTCH, and to ſave the Seed in Perfection.

WHEN you begin to pull the bunch-rate flax, arrange your pullers all in a row, at one ſide of the field; let every puller take about two yards broad, and lead on at about the ſame diſtance before one another.

Spread the flax after them thin and even, with the tops all one way, as white flax is ſpread on the graſs when it comes out of the pit. Take care that the firſt puller lays his row ſtraight, that it may be a guide to all the reſt; as one crooked row will diſorder the whole field, and give double trouble both in turning and gathering it up.

When pulled and thus ſpread, let it lie till it gets a grey colour, which will be in three or four days, particularly if there be heavy dews or rainy weather; but if not, it will take a longer time.

Turn it with turning-rods, as directed for white flax, that both ſides may get a grey colour alike. By this means the ſeed will be pretty raſh, therefore handle it gently, that the boles do not ſhake off in gathering and binding; in which there will be the leſs danger, if you make large ſheaves, as there will be leſs outſides.

Hereupon take it home, and beat out the ſeed with beaters for that purpoſe, made of a piece of wood twelve inches long, two thick, and ſix broad, and in this fix a handful ſloping-wiſe.

When you begin to beat out the ſeed, ſpread two rows of flax on the barn-floor, with the ſeed-ends to meet. Then beat out the ſeed with your beaters; but obſerve that you let the beater fall level or true on the flax, or elſe it will break the handle: there is ſome art required in giving a good ſtroke with the beater.

Tye the ſheaves up with two bands, one at each end, and lay one half of the ſheaf with the tops to the roots of the other half. Make the ſheaves as large as a middle-ſized wheat ſheaf.

Being thus prepared, take it to the water; but this muſt not be ſunk with ſods, or any other weight, but muſt ſwim upon the ſurface of the water, lying in rows, each ſheaf cloſe to another. It is beſt to put it in pits that have been watered in, as it will have a finer blue colour.

It muſt be turned every ſecond day; which is eaſily done with a long fork, having about two inches of the points of the grains bent, in the nature of a muck-drag.

For its being well watered, obſerve the directions, as for white flax; with this addition only, that it will ſink under the ſurface of the water when it is about, enough rated, but not to the bottom of the pit. If it ſhould be left till it ſinks to the bottom, there is great danger of its being over done, or, in plain terms rotten.

Theſe are known facts amongſt the flax-farmers; but for what reaſon nature thus varies her operations, few trouble their heads to philoſophize about the matter.

Were a curious perſon, however, to attend the flax throughout the proceſs of its rating, he might infer a great deal from its riſing and falling in the pit; its loſing and regaining its ſpirits, &c.

Being thus duly watered, take it out and let it lie on the pit ſide all night to drip; then take it to the ground intended to dry it on; but it muſt not be ſpread flat, but ſet up almoſt like a ſugar-loaf, the ſheaves being in two parts, that is, the heads each way; it will eaſily part in the middle, one half of which is enough for a rickle; take it by the top, and ſpread it round you, giving the root-end a good ſplay, ſo that the wind will not eaſily throw it down; preſs the tops cloſe together, ſo that, as I have obſerved, it may reſemble a ſugar-loaf, ſtanding ſo thin and open, that it will ſoon dry; but however, it will be the better to get a little rain before it is bound up, in order to waſh the dirt and ſlimy ſubſtance off.

The boles of this flax will be well broke by the beater as above directed, ſo that there will be no more to do than to winnow them, and there is no doubt of the ſeed being very good.

I have known ſuch bunch rate flax to ſell, in the rough, in Snaith-market, Yorkſhire, at ſixty-four ſhillings the hundred weight, and the ſeed from it, as good as any foreign ſeed whatever.

CHAP. XXI.

Directions how to Manage DEW-RATE FLAX, with or without the Seed on.

SOME ſet up their dew-rate flax in ſtooks after pulling, to dry, like corn, letting it ſtand parhaps three weeks, or a month.

This is a bad way; for ſtanding in the ſtook ſo long in order to dry the ſeed, tender the outſides of the ſheaves to ſuch a degree, that they will not take ſo much rating as the inſide, and will therefore be undoubtedly rotten before the inſide is enough rated.

The beſt way is to ſpread it after the pullers, as directed for bunch-rate flax, in the following manner, viz.

Arrange your pullers at one ſide of the field, and let them ſpread the flax thin and even after them, with the tops all one way; if there be rain, the upper part will be well rated in five or ſix days; but in this caſe circumſtances alter greatly, according to the various ſorts of weather that may happen; therefore a farmer muſt be circumſpect, and rub a few ſtalks at the upper part of the row, between his finger and thumb, and if they break and part freely from the ſkin or baſt, he may then turn it with turning rods, and let it lie he finds both ſides to be rated and coloured alike. But if the flax be not ſpread upon the graſs, very even and thin, but lie thick and in lumps, the inſide will be green or yellow, and not in any degree equally rated to the out-ſide, therefore it will be irrecoverably ſpoiled.

If the flax be not enough rated by the above method, or that you dare not truſt it on the graſs, ſo to be, (for fear of ſhedding the ſeed) then about the firſt of March, when the ſeed is off, ſpread it on the graſs again thin and even, and manage it the ſame way in graſſing as white flax; alſo obſerve the ſame tokens for its being well graſſed.

I have had flax well dew rated, with the the ſeed on, by ſpreading it after the pullers as above, without any more trouble; ſo that it breaked and ſwingled, and in ſhort anſwered well every way; but I never knew it done by any one but myſelf; and indeed, I never ordered any thus but one year, in which, I had twenty-ſeven acres rated in the above manner; however, it is to be noted, that it was coarſe bunned flax, which made it the eaſieſt managed thus. For it is neceſſary it ſhould be ſo: and it requires a good look out, leſt it ſhed the ſeed, by lying too long on the graſs, or getting too much ſlavery under the weather.

When it is enough rated, take it home for working. It muſt be breaked and ſwingled as other flax.

The ſeed of this dew-rate flax is undoubtedly very good, and there is alſo leſs trouble attends the flax; but it is not ſo good in quality, neither do I think it yields ſo well. Indeed it is ſcarce ever done, but in a country that has not the conveniency of water.

CHAP. XXII.

Directions for Breaking and Swingling FLAX without Fire.

AS I have reminded my reader to take great care that his tops of flax be kept all one way, and the roots even, it is to be hoped that my former caution may prove ſufficient; if not it will occaſion the more labour to the breaker; for it muſt be very even at the roots, before it be put in the breakers hands, or he can never make good work.

Wherefore, when he begins to break, let him take a ſheaf, and ſlacken the band, but not looſe it quite; then chop the root-end on the ground; this done, pull all the looſe rubbiſh it has gathered from it; then take a little more than he can hold in one hand and again jump it even at the root; take hold as near the top as poſſible, ſo as to hold it faſt; then take a little of the top from under the hand, bring it round the flax, and lap it round his thumb, by which he may hold it faſter than if he had no more than his fingers could meet about; bend it two or three times backwards and forwards, ſo as to make it ſupple cloſe to the hand; put it into the brakes, keep it thin ſpread in them, and as he works it, turn it often.

When the root is breaked, let him ſtroke it ſmooth, and pull the end; then break the top-end, and the root-end again.

Being thus breaked, let him begin to ſwingle, holding it in the nick of the ſwingle-ſtock, with the left hand, and the ſwingle-hand in the right, let him always hit the top of the ſtock above the nick, and it will glance down paſt the nick with full force through the flax.

When the root-end is ſwingled once over, hackle the top-end with the foot-hackle, to take out the rough row and ſhoves, which are hard to fetch out effectually with the ſwingle-hand alone.

When the flax is good and rightly watered, it is eaſily worked; three times going over with the ſwingle-hand will be ſufficient to clean it from ſhoves.

If it be rightly ſwingled by a good workman, it will be quite clear of tow to all appearance, before it goes into the hackle; ſo that it will be eaſy to count every harl in it; and the root will be as even as a pound of candles, and look as gloſſy after the ſwingle-hand, as it does after the hackle.

When we ſee a parcel of flax dreſſed to this perfection in Ireland, that will fetch, in the rough, from ſixty-eight to ſeventy ſhillings per hundred, we may venture to pronounce that the moſt eſſential part of this noble branch, which ought to be the firſt introduced, has at laſt found its way into that kingdom.

But tho' I have given rules, as above, for a ſwingler, I am certain it is impoſſible to make a workman without occular demonſtration.

It is true, if a learner had an old workman to look at two or three days, theſe directions would be of great uſe to facilitate his inſtructions.

Whatever you do, beware not to dry any flax with the fire, or even the ſun, after it gets a ſweat in the mow; for if you do, it will certainly reduce both the value and weight, making it light, furzy, and brittle.

I have often been told by the Iriſh, that they thought it impoſſible to dreſs flax without fire; and on the other hand, when I have told the Engliſh that the Iriſh dried their flax with fire, they wondered as much, thinking them very ignorant for ſo doing.

CHAP. XXIII.

Obſervations on FLAX-SEED, of its being worn out, or tired, and how to Refreſh it, &c.

FLAX ſeed is a very deceitful grain, for though it may look well to the eye, yet it may not be worth a penny a cart-load, for ſowing. Indeed if it be of a good quality, it is not worſe for looking well, by being clean and bright, &c.

The flax farmers are as much on their honour in ſupporting the character of their ſeed, as that of their horſes; nay more ſo; for it is impoſſible for a perſon to ſell a parcel of ſeed, at any price, if he is not known to be in a good breed, (as they call it) and he muſt be well known to be a man a man of a good character, and his ſeed well vouched.

It is incredible to tell the difference there is in flax-ſeed; which I have ſeen proved more than once. An inſtance or two I beg leave to mention, viz.

A farmer of my acquaintance lived about twenty miles from the flax-country, and though no farther off, yet he was quite a ſtranger to the branch, but as he was a puſhing ſcheming man, he made a journey over to the moſt famous part in all England for flax. He ſtaid a few days among the farmers; and as he was a ſmart ſenſible man, without doubt returned as well inſtructed as the nature of ſuch a journey would admit.

Upon which he plowed up twenty acres of good old lay land, and ſowed it with flax-ſeed, which he bought at an oil-mill, and which, he ſaid looked very well, being large, bright, and clean; it grew very vigorouſly till it was about fourteen inches long, whereupon it made a full ſtop, began to bloſſom, and never got to be half a yard in length. He was greatly ſurpriſed at ſuch a diſappointment; and, as the land was good, could not unriddle the myſtery.

However, he was not diſcouraged beyond hope, as he remembered that the flax-farmers, when he was in the flax country, ſold their ſeed for four pounds per quarter; ſo that if he made no uſe of the flax, the ſeed, he apprehended, would pay him better than any thing he could have ſowed his land with.

Upon this preſumption, he took a ſample, and went to ſell it at the time of year: but not a grain could he diſpoſe of at any price, though the farmers were ſelling one to another at four pounds a quarter.

He wrote me a pitiful letter, complaining of the flax-farmers, believing they combined againſt him, not to by his ſeed, in order to deter him from ſowing any more.

Hereupon I adviſed him to employ a perſon to ſell it for him by commiſſion, and recommended a noted flax-buyer to him for that purpoſe.

He took my advice, by which means he ſold his ſeed at four pounds per quarter. However, it was a bad job for all ſides; the buyers loſt their crop, and the ſellers their credit.

The flax was ſo ſhort that it could not be wrought; and as to him who ſold the ſeed by commiſſion, he has told me ſince, that his credit was hurt ſo much by ſelling the ſaid parcel of bad ſeed, that he never could ſell a peck ſince in the commiſſion-way.

This ſhews how cautious a farmer ought to be in the choice of his ſeed. Among many inſtances of this ſort, I ſhall only mention one more, that happened to myſelf.

About five years ago, I happened to be one buſhel ſhort in finiſhing about ſixty acres I ſowed that year, with good ſeed of my own rearing. The field I finiſhed in, contained twelve acres, and was very good land; wherefore I thought it a pity to let any of the land lie idle.

Hereupon I bought ſome ſeed at a venture, which looked well and grew vigorous as the reſt of the field, till it was near half a yard long, and then it made a full ſtop, bloſſomed, ſeeded, and grew no more, though all the reſt of the field was from a yard to a yard and a quarter long.

A more demonſtrable proof I never ſaw, for it was put into a ſack wherein the good ſeed had been; and as ſome grains of the good ſeed ſtuck to the ſack and mixed, it was eaſy to gather every ſtalk, of flax that grew, from the good ſeed, being above twice the length of the bad ſpecies.

Moreover, the branches of the good ſeed were long, and one aſpiring above another, having a leader above all the reſt.

But it is not ſo with the bad ſort, of which the branches are all of a height, ſo that the top will be as even as a clipped hedge. When flax comes to have ſuch a top, and abates ſo much in height, it is a ſure ſign that the ſeed is tired, bad, and worn out.

Perhaps my reader would be glad to know what I mean by ſeed being tired, as alſo how to help tired ſeed, &c. which is as follows, viz.

Firſt, let us conſider that it is from the hot climates that this ſeed comes, namely, from North America and Riga.

It is true that the heat in the latter only continues about three months; but that is the ſeaſon in which the flax grows, during which time it is exceeding warm.

The heat in America holds much longer; and it is well known that a plant or vegetable, which produces a fluid ſubſtance, will ripen in fruit and ſeed, to a greater perfection there, than it will in our cold climates; the ſkin being thin, kind nature, as it were, crams her receptacles full of rich juices ſuited to each plant.

This in flax-ſeed is demonſtrably proved by the oil mills, as they find a conſiderable larger produce of oil from foreign new-ſeed, than from ſeed that has been repeatedly ſown for many years in England, though the latter ſhall look brighter, larger, and plumper than the former.

The ſeed therefore certainly degenerates by not producing ſo much oil in our cold climates, but inſtead of oil a thick ſkin, and within it a groſs pulpy ſubſtance; and the longer it is ſown here, the more it runs to this harſh unkind matter.

Now, this oil is the very life and ſpirit of the flax; therefore, as this abates in quantity, the flax abates in its length and value.

Without doubt were a parcel of ſeed that is quite run tired in England, taken to thoſe hot countries and ſown, it would in time regain its former good quality.

But let not my brother-farmers be deterred from ſaving ſeed in theſe colder climates, under fear of its degenerating; for be aſſured it may be ſown four or five years before the degeneracy can be perceived, and then but in a ſmall degree; ſo that it will laſt fifteen or twenty years before it need be changed; but I only mention theſe particulars, in order to lead the flax grower thoroughly into this branch.

The farmers in England have a way of reſting their ſeed (as they call it) which is done by barrelling it up, letting it ſtand a year or two without ſowing; the longer it ſtands the better. This was diſcovered by chance.

A farmer happened to ſpare ſome ſeed after ſowing; he let it ſtand two years: and, when he came to ſow it at the end of that term among ſome ſeed of the ſame ſort, but which had been kept ſowing each year, it topped it in length eight inches. This accidental experiment has brought on a general practice, as it is found to refreſh the ſeed in a ſurpriſing manner.

There is no accounting for this amendment, otherwiſe than by ſuppoſing that the pulp and ſkin mellorates by the evaporation of the watery particles, and by the cruder parts being mellowed and melted down (as it were) into the body of the oil.

Thus any ſort of ſeed of an oily nature ſuch as rape, muſtard, or cole-ſeed, will produce the more oil, the colder it is; and it is oil (as I ſaid before) which is the very eſſence of flax.

A farther caution is neceſſary, that your ſeed be clear from button-ſeed, which is a very pernicious weed, and a great enemy to flax; for where this gets footing, the flax-ſeed muſt be condemned for oil, be it ever of ſo good a quality, ſo fatal is this weed to it.

The ſeed of this weed is white and very ſmall, not ſo large as the ſmalleſt grain of muſtard-ſeed; but there are as many joined together in a bunch as make a head about the ſize and likeneſs of a waiſtcoat button, from whence it takes its name of button-ſeed.

It grows on a ſmall ſtalk, which twiſts round the flax, as ivy about a tree; ſo that there is no getting quit of it either by weeding or ſwingling, as it will not part the flax along with ſhove; and the increaſe is ſo very great, that if there be only a few ſtalks in an acre of flax this year, the next it may deſtroy the whole crop.

There is another bad ſeed which is by ſome called wild-willow, and by others corn-bind, this is not much unlike hemp-ſeed, only not quite ſo large; it alſo twiſts round the flax as ivy round a tree, which makes it impoſſible to be weeded out; however, as the ſeed is large, it will ſtay in a ſieve that will let flax ſeed through, by which means it may be kept clear with care, and though it is not ſo multiplying a ſeed as button ſeed, yet it is a great enemy to flax, and ought to be guarded againſt.

There are ſeveral ſorts of flax-ſeed which might be explained, were it worth while to go to the nicety of matters: but as I have no intention to ſwell this work with matters of ſpeculation, or with any thing, that is not of immediate conſequence to the farmer, I ſhall only mention the two principal ſeeds from whence we derive our growth, namely, that of America, and that of Riga.

The former is a bright bay ſeed, and produces a fine ſmall flax; but the Riga is moſtly a drak bay, broad, flat ſeed; it produces a groſs tall flax, which I am apt to think is moſt ſuitable for this degenerating climate, for it is eaſily cured and made finer by ſowing it ſomewhat thicker on the ground.

I got the beſt breed of ſeed I ever had from Memel and Riga. This Riga ſeed will laſt good longer than American ſeed in England or Ireland; but it is not ſo beautiful to the eye, neither is it of ſo high a price in Dublin as the American ſeed.

There is a ſort of ſeed which comes from France, and when ſown here produces a fine flax, but ſo puny, ſhort, and ſmall that it is ſcarce worth reaping. I once ſowed ſome, by way of trial, but loſt my crop. I have alſo ſeen others ſuffer by it, therefore would have my reader to guard againſt it.

CHAP. XXIV.

Directions for making FRENCH SIEVES, and their Uſe.

FRENCH ſieves, ſo called, as they came from French Flanders. The rim is about three feet diameter, and three inches deep; the bottom is made of parchment; two are made uſe of, and called a ſet; one of them goes under the name of riddle, and the other of ſieve.

The riddle is punched with a hole, thus ▭; it lets through the flax-ſeed being flat, and any round or ſquare ſeeds ſtay in the riddle.

The ſieve is punched with round holes thus Θ, which lets through the ſmall round ſeed, ſuch as rape, muſtard, ketlock, or button ſeed, but the flax-ſeed ſtays in the ſieve. Theſe holes muſt be punched to an exact ſize, or they are uſeleſs.

There is a particular art in dreſſing with theſe ſieves, which I ſhall ſpare myſelf the trouble of explaining, as it is impoſſible to be executed without ſeeing it put in practice; and even then it is not eaſily learned.

There is not above ſix pair of theſe ſieves in England; and about as many men who are capable of dreſſing with them. It is a calling of itſelf; and, at the time of ſowing, they are very buſily employed. A farmer pays about two ſhillings per quarter to have his ſeed dreſſed in them. None requires to be dreſſed in this manner, ſave ſuch as have run to weeds; and, in this caſe, though it is difficult to get the right knack of dreſſing or turning the ſieves, yet the ſtirring of them any way will clear a great deal of dirt and ſeeds out.

The expence of a ſet of theſe ſieves, at a moderate computation, is three pounds, and one ſet, and two men will clean all the flax-ſeed for ten or fifteen miles round in a flax country.

CHAP. XXV.

On WINTER-FLAX.

WE may truly call that winter-flax which is ſown in autumn, to ſtand the winter, it being about five months longer in the ground than the common.

In my travels through Ireland, I have met with ſeveral perſons that told me they had made trial of this method; and ſome ſpeak in favour of it, but there are many more who condemn it.

I was often aſked the reaſon why I took no notice of it in my firſt edition? My anſwer was, that I thought it of no utility to the public, as I had tried it long ago, and found it did not anſwer; therefore I omitted taking any notice of it for that reaſon. The particulars of the trials I made are as follows, viz. Obſerving where the flax-ſeed had been accidentally ſcattered in autumn, and that it grew, or kept green all the winter, I concluded that this method might be improved upon; therefore I was determined to be convinced by a fair trial; and for that reaſon, in October, 1759, ſowed one acre, in the middle of a twelve acre field, tilled well, and managed it in every other degree as it ought to be.

About the middle of March following, I ſowed the remainder of the ſaid field with the ſame ſort of ſeed. The winter-flax got to be about five inches long before the ſeverity of the winter came on; after which it grew no more, but, from the firſt froſt changed its healthy dark green to that of a ſickly pale green, and at ſpring never regained its former healthy complexion.

After the ſpring-flax came up to be about five inches long, I ſet ſticks, as marks to both ſorts.

The ſpring-flax grew above one inch in twenty-four hours; but the winter-flax grew half an inch only.

The winter-flax was ready to pull three weeks before the ſpring-flax; and at pulling was ſcarcely thirty inches long: the ſpring flax was about a yard and ſeven inches, ſo that it was longer than the former by thirteen inches or thereabouts. The winter-flax branched or ſpread greatly into top, ſo conſequently produced more ſeed; which indeed, by the by is no recommendation.

The year following I made another ſmall trial, which was attended with much the ſame conſequences; therefore I was thoroughly convinced that winter-flax is not an advantageous crop.

The failure in winter-flax, may be accounted for in the following few words, viz.

It is to be conſidered that flax in its nature, is truſting to one leader, the top of which is exceeding tender, inſomuch that if any thing wound it ever ſo little, it will grow no more, but ſtrike or ſpread out into ſide-branches, which is of no other uſe than to bear the ſeed, being of a poor towy quality, therefore comes off in dreſſing as ſuch.

If a fly, or what is commonly called a flax-fly, happen to bite or wound the leader, or top of a ſtalk of flax, when at five or ſix inches long, it ſtagnates its growth, and makes it ſhort, coarſe, and ſtunty, much reſembling a young fir-tree that has loſt its leader. I found the froſt had pinched the tender leader of my winter flax, which made it liable to the ſaid ill conſequences.

Another thing is, that flax-land muſt be harrowed very fine at the time of ſowing; therefore much wet weather in winter makes it cement, or bake together, which helps to bind the flax in the ground, and retard its growth. Any land is certainly better and fitter for a crop that, after a ſevere winter, is opened, broke up, or pulverized in ſpring, as it ſweetens, and proves of great utility thereto.

CHAP. XXVI.

On FLAX among POTATOES.

IF flax ſeed be ſown among potatoes ſet with the plow, (as directed in this treatiſe) there is no doubt but it will anſwer very well, as the potatoes are ſet thin and in drills, having about eighteen inches between each drill, and about ten inches between each potatoe; by this the tops of the potatoes and the flax do not incommode or croud each other, having room enough for each to flouriſh.

The potatoes ſet thus, will ſpread under ground, and produce a far better crop, than when planted thick, as the tops, by this warm ſituation, draw one another up weak and tender; and nature being ſo profuſe in throwing her bounty upwards to ſupport ſo much uſeleſs top, robs herſelf of the ſalts ſhe ought to reſerve to enlarge the potatoes.

In the year 1765, I received the higheſt premium in Ireland, for ſaving the moſt and beſt flax ſeed among potatoes. I ſaved forty-eight pecks of good ſeed; only the land was ſubject to weeds, and had little pains beſtowed to clean it, or I might have had as much more; the potatoes were very good alſo. I ſet them with the plow, as directed in this treatiſe.

As ſoon as the potatoes were planted, I ſowed the ſeed the broadeſt way, at the rate of eight quarts to the acre; and, in order to try experiments, I raked and rolled ſome; but the moſt part of it I did nothing to after ſowing, but left it uncovered, which proved the beſt crop; and though it may ſeem odd to my reader, yet it may be eaſily accounted for.

It is to be obſerved, that flax-ſeed being of an oily nature, has a great attraction, inſomuch, that if a field be ſown, and not covered by harrowing or otherwiſe, the ſecond day after ſowing, it will be impoſſible to find a ſingle grain, particularly, if there fall in the mean time either dew or rain, or if it be ſown in green mold. Each grain gathers the fine particles of earth about it, being candied (as it were) with mold, and much reſembles a comfit; ſo that after the ſecond day (as I obſerved) one loſes it inſenſibly, and ſees no more of it till it riſes at the top of the plant, which it will in about five days after it is ſown. The firſt time I found this out, I was greatly alarmed, as follows, viz.

In 1753, I had a large field ready to ſow on a Saturday, and having a call from home, I ſent a man to ſow the field, and ordered it to be harrowed once in a place when ſown. At my coming home I was told the field was ſown, but about an acre of it left uncovered. On Monday I ſent to finiſh the field, but the ſervant returned in a great hurry, telling me that the birds had picked up all the ſeed; upon this, I as well as the reſt of the family, and ſome of my neighbours, went to ſee if it was neceſſary to ſow over again.

We ſought a conſiderable time, and could not find a ſingle grain; therefore had concluded to ſow it over again; but, by chance, I found a grain by rubbing the mold between my fingers; this learned me how to ſeek for it, after which I found ſeveral grains candied with a coat of mold, and very ſlimy.

In order to ſee the reſult of this, I left it as it was, without harrowing, and I never had a finer crop; I believe every grain grew, and all ſtarted (as it were) fairly together, and not one grain buried deeper than another; which is not the caſe when harrowed; for when it happens that the ſeed falls to the bottom of a drill or ſeam, made by the pins, (which may be the caſe with more than half of the ſeed) it will be covered, perhaps two inches or more deep, therefore longer in coming up through ſo much mold, by ſeveral days, than that which lies on the ſurface; therefore it may be juſtly called a ſecond growth, and a ſecond growth in any crop is bad, but worſe in flax than any other; as thoſe plants which firſt come up are generally the ſtrongeſt, and maintain their vigour, by being more open and expoſed to freſh air: but the ſecond or undergrowth is partly debarred from this advantage, being ſhaded or kept under by their overbearing predominant enemies, therefore rendered ſmall and ſickly. I have proved this ſo often, that I believe I ſhall never cover a grain of flax-ſeed more.

Thoſe that would raiſe flax-ſeed among trenched potatoes with ſucceſs, muſt adhere to the following rules, viz.

Firſt, never ſow flax-ſeed on land that is ſubject to red-worms.

Secondly, do not plant your potatoes nearer than a foot of each other.

Thirdly, never dig your trenches deep to throw up bad mold, but make them wide and ſhallow, except the under ſtratum be of a good loam, or black rich haſle earth; but if the under ſtratum be of a fox-ſand, a red or blue caly, or of a hungry brown, or red cankered, poiſonous earth (commonly in England called ramel) a man may as well throw his ſeed into the ſea as on ſuch land; and I believe three-fourths of Ireland is ſubject to ſuch a bottom. Indeed the lands of Ireland are very changeable; it is not uncommon to ſee two or three different ſorts in one field.

In my travels through Ireland, I met with ſeveral complaints, that flax miſſed which had been ſown amongſt potatoes, and have often been ſhewn the ground, which was always attended with conſequences as above; therefore it behoves every perſon to conſider the land he has to work in, or he can never be ſucceſsful in his enterpriſes; but whether the land be good or bad, or whether he means to ſow flax among his potatoes or not, it is a great miſtake to ſet his potatoes thick, as by that means the land is ſpent by ſupporting the luxuriant tops; whereas, if they ſtood thin, there would be a free circulation for air, and the potatoes would ſpread the more under ground. This is evident even to a weak underſtanding.

A TABLE

Of the Expence and Profit of an Acre of White-Flax, raiſed in the Engliſh Method, as directed in Chap. XVII.

One Engliſh acre of flax at 5 yards to the perch, will produce 55 ſtone, at 8s. per ſtone - - -	22 0 0

The Expence of the ſaid Acre is as follows.

	l. s. d.
To plowing, harrowing, and ſowing - - - -	0 9 0
To two buſhels of flax-ſeed, at 10s. per buſhel - -	1 0 0
To rolling ſaid acre - -	0 0 6
To pulling - - -	0 5 0
To drawing to the water, at a reaſonable diſtance, and ſodding -	0 3 0
To treading in the pit - -	0 0 6
	1 18 0

	l.	s.	d.
Brought over - - -	1	18	0
To taking it out, and ſpreading on the graſs - - -	0	3	6
To turning it on the graſs -	0	0	6
To gathering it up, and drawing home - - - - -	0	3	6
To breaking and ſwingling fifty-five ſtone, at 1 s. 2 d. per ſtone	3	4	2
To land rent, ſuppoſe in or about the centre of England -	0	15	0
Total expence -	6	4	8
Clear profit -	15	15	4

The Profit and Expence of an Acre of FLAX, raiſed as directed in Chap. XIX.

To fifty ſtone of flax at 7 s. 6 d. per ſtone - - -	18	15	0
To fourteen buſhels of ſeed, at 10 s. per buſhel - - -	7	0	0
	25	15	0

Expence attending the ſaid Acre if ordered as directed in the ſaid Chapter.

	l.	s.	d.
To plowing, harrowing, and ſowing - - - -	0	9	0
To two buſhels of ſeed, at 10s. per buſhel - - -	1	0	0
To rolling - - -	0	0	6
To pulling - - - -	0	5	0
To ſtacking and turn-ſtacking -	0	1	0
To drawing home, ſuppoſe a mile	0	2	0
To rippling - - -	0	10	0
To threſhing or ſhelling the ſeed at a mill, and winnowing -	0	3	0
To drawing the flax to the pit, ſuppoſe a mile, and ſodding -	0	4	0
To treading in the pit - -	0	0	6
To taking out of the pit, and ſpreading - - -	0	4	4
To turning it on the graſs -	0	0	6
	2	10	10

	l.	s.	d.
Brought over - - -	2	10	10
To gathering up, and leading home - - - -	0	4	0
To breaking and ſcutching fifty ſtone, at 1s. 4d. per ſtone -	3	6	8
To rent for land - -	0	15	0
Total expence -	7	5	2
Neat profit -	18	9	10

The Expence and Profit ariſing from an Acre of FLAX-SEED, Managed as directed in Chap. XX.

To forty-five ſtone of flax, at 6s. per ſtone - - -	13	10	0
To fifteen buſhels of flax-ſeed, at 10s. per buſhel - -	7	10	0
	21	0	0

Expence attending the ſaid Acre of Flax.

	l.	s.	d.
To plowing, harrowing, and ſowing - - - - -	0	9	0
To two buſhels of ſeed, at 10 s. per buſhel - - -	1	0	0
To rolling - - - - -	0	0	6
To pulling - - - -	0	5	0
To turning when ſpread on the flax-ſtubble - - -	0	0	6
To gathering, bringing and drawing home - - -	0	4	0
To beating out fifteen buſhels of ſeed - - - -	0	5	0
To drawing to the water, ſuppoſe a mile - - - - -	0	2	0
To turning it in the pit - -	0	1	0
To taking it out and rickling -	0	2	0
To binding and drawing home	0	3	0
To breaking and ſwingling forty-five ſtone, at 1 s. 4 d. per ſtone	3	0	0
	5	12	0

	l.	s.	d.
Brought over - - -	5	12	0
To land rent - - - - -	0	15	0
Total expence -	6	7	0
Total produce -	21	0	0
Clear profit - -	14	13	0

The Expence and Profit of one Acre of FLAX, raiſed by the Method laid down in Chap. XXI.

To forty ſtone of flax, at 6s. per ſtone - - - - -	12	0	0
To fifteen buſhels of flax-ſeed, at 10s. per buſhel - -	7	10	0
Total produce -	19	10	0

Expence attending the ſaid Acre of Flax.

To plowing, harrowing and ſowing	0	9	0
To rolling - - - -	0	0	6
	0	9	6

Brought

	l.	s.	d.
Brought over	0	9	6
To two buſhels of ſeed, at 10s. per buſhel	1	0	0
To pulling	0	5	0
To turning when on the flax-ſtubble	0	0	6
To gathering, binding and leading home	0	4	0
To beating out and winnowing	0	5	0
To leading and ſpreading it on the graſs	0	2	0
To breaking and ſwingling without fire, the forty ſtone, at 1 s. 4 d. per ſtone	2	13	4
To land-rent	0	15	0
Total expence	5	14	4
Total produce	19	10	0
Neat profit	13	5	8

CHAP.

CHAP. XXVII.

Remarks on the foregoing TABLES.

I HAVE been very exact in calculating the foregoing tables; therefore my reader may rely on what I have ſet forth, as I cannot be miſtaken, knowing every part of it ſo well; it is nothing to me to calculate, or eſtimate tables of this ſort, in any part of the two kingdoms, as I have had ſo many repeated trials, and am ſo well acquainted with the value of land, labour, and commodities, in almoſt every part therein.

I have fixed the tables, ſuppoſing the flax to be all of an equal goodneſs as it would be impoſſible for me to eſtimate for different crops (a farmer may chance to have) without ſeeing them: but he ſeeing the tables and different methods of management, muſt be the beſt judge, which management or table will anſwer beſt for the crop he ſees himſelf poſſeſſed of. But in order to aſſiſt him as far as I am able by a theoretical leſſon, let him obſerve the following rules.

Firſt. If your flax be very long and fine, and either does, or is likely to lodge if rain come; if your markets or ſituation be ſuch, as to have a call for fine flax, then pull it for white flax, and follow the direction for Chap. XVI.

Second. If your crop be a ſtout fair-ſtanding one, and a degree coarſer than the above; if your ſeed be of a good kind, ſo that you would be glad to ſave it, and that you have plenty of labourers to attend at the rippling of it, which indeed is a great clog upon this ſort of flax at this buſy ſeaſon of the year; if your ſituation, manufactories, or markets, be ſuch as have a call for this ſecond-rate flax, then manage this crop as directed in Chap. XVIII.

Third. If your flax be thin or ſhort, or inclined to a large buſhy top, which will produce a great deal of ſeed (tho' indeed this ſeed ſhould be ſold for oil, as it is not good in nature); if you be ſcarce of hands at this buſy time of the year; alſo if you be ſcarce, or would not be at the labour of making pits, but have drains (which if not, running water will do very well to ſwim this flax in); if your ſituation, manufactories be ſuch as to have a call for this third-rate flax, then manage it as directed in Chap. XIX.

Fourth. If your crop of flax be thick, or coarſe ſtalked (commonly in England called round or coarſe bunned); if your ſituation be diſtant from water; alſo if your ſituation for manufactory or markets be ſuch as to have a call for coarſe flax, ſo that your regard be more for the ſeed than flax, then manage it as in Chap. XX.

My reader may have one eye upon his crop, and the other upon the foregoing hints, therefore may eaſily determine which to purſue.

But though it is no more than neceſſary to verſe my reader in every method, yet the fourteenth and ſeventeenth chapters are what I would chiefly recommend, being the moſt profitable, and leaſt ſubject to miſcarriages, badneſs of weather, or hurry of other buſineſs, &c. as alſo the lands and manufactories of Ireland are ſo circumſtanced, as not to fail anſwering for one, if not for both of theſe crops, almoſt to every farmer; as there is, in moſt parts of Ireland, a call for both coarſe and fine flax, and there are few fields but what have two or more ſorts of ſoil or earth in them; perhaps one ſide of a field may be in a bottom, which is generally the deepeſt and richeſt ſoil, therefore will produce a finer and longer flax, which is moſt apt to lodge.

The hilly part of the field may be gravelly or ſandy, which will produce a ſhorter flax; ſo between the two, the farmer may ſuit himſelf with both ſorts of flax and ſeed too, which will divide his crop, ſo as to be managed in two ſeaſons, and will prevent hurry, ſo that he may get eaſier through it.

Obſerve, that coarſe or thick ſtalked flax, will take a ſhorter time in watering or graſſing than fine ſmall ſtalked, therefore ought to be watered in ſeparate pits: the former is generally thinner ſkinned, therefore not ſo good as the latter ſmaller ſort.

Flax will not bear to be ſown thin for the above reaſon, except regard be had to ſeed alone. Three buſhels of ſound ſeed is the true compliment for an Iriſh acre at ſeven yards to the perch, and 160 perches to the acre.

By the ſame rule, two buſhels are ſufficient for an Engliſh acre, at five yards and an half to the perch; the proportion is near alike.

CHAP. XXVIII.

Directions for Sowing and Manageing Hemp, and the Seed in Perfection.

THE ſeaſon for ſowing hemp is from the firſt of April, to the middle of May. It requires a deep, rich ſoil; if ſummer-fallowed, the better; though ſtubbles will do, provided they are fine, and well tilled by a winter fallow, and well manured. They muſt be plowed early in autumn, and twice more in ſpring, before ſowing. After the laſt plowing, ſow the ſeed; and if the land be cloddy or rough, pulverize it alternately with the harrow and roller.

Contrive to ſow the moſt weedy ground you have with hemp-ſeed, as it will moſt effectually kill the weeds, and bring the ground into a good tilth for any ſort of crop that may follow it; but wheat is moſt commonly uſed, and has been found moſt ſucceſsful.

There are two ſorts of hemp that grow promiſcuouſly through one another, namely, the ſummer and winter hemp, otherwiſe called male and female: the male or winter hemp bears the ſeed; the female or ſummer hemp bears none, and is ripe for pulling at leaſt two months before the ſeed or male hemp.

About the latter end of July, the female hemp will be ready to pull, as will be evident from its turning a pale yellow, and the leaves withering and falling off; when at the ſame time the ſeed hemp will be in its full vigour of growing, and the ſeed ſcarcely formed.

The female hemp being thus ready for pulling, go along the furrows and pick it out from the male; but, if you happen to break any ſtalks of the ſeed or male hemp, pull them up along with the female, as alſo any ſmall ſeed-hemp that may happen to be in the furrows, &c.

After pulling, tye it in middling ſheaves, with a band at each end; and for watering it, obſerve the ſame directions as for white flax.

Rate and graſs it alſo the ſame way, obſerving the ſame tokens in every caſe.

Some will ſave no ſeed, but pull all together, as female or ſummer hemp; this is the leaſt trouble, but not the moſt profit, particularly if the hemp be a groſs, ſtrong crop; but indeed, if it be a ſmall ſhort crop, it may anſwer as well; for, when it is rightly managed in the white or female manner, it will fetch from four and ſix-pence to five and ſix-pence per ſtone; which is about two ſhillings a ſtone more than ſeed or peeled hemp will give.

It muſt be breaked and ſwingled directly as flax, and without fire.

As to the ſeed hemp, let it ſtand until the ſeed be ripe, which is generally about the latter end of September; then pull it, and tye it up with one band near the top, and ſet it up to dry.

When ready for threſhing, make an even place for a threſhing-floor in the field, and ſpread a winnow-ſheet, on which it muſt be threſhed.

When threſhed, tye it up with two bands and water it; ſink it with ſods as white flax.

When enough rated, take it out of the water, ſet it up to dry, as directed for bunch-rate flax.

Being thus ſet up, it will ſoon be dry to take home for peeling. This peeling is good winter-work for women and children;

dren; if it be large hemp, it will be got peeled for two-pence a ſtone, but if ſmall, it will coſt two-pence half-penny. At times I have paid three-pence, but that was in a country where the people were ſtrangers to ſuch work. A child of ten or twelve years old, if active, will peel two ſtone a day, and the ſtalks are good firing for them, as it is generally peeled at their own abodes.

The hemp-ſeed is winnowed as other grain; but it is often deceitful, as a great deal of it will be hollow within, and have no kernel, though it will look near as well to the eye as the beſt; therefore the buyer ought to inſpect nicely into it, and try its weight, which is the ſafeſt way to buy it by, though indeed not a common one.

An acre of hemp well managed, as above, will clear at a moderate computation, about twelve pounds ſterling, over and above all other charges. And there are very few farmers in England or Ireland, but what have ſome land fit for this crop, ſuch as old gardens, or land that is run to weeds, &c provided (as I obſerved) it be well tilled and manured; but the weeds will be apt to grow the faſter for the manure, if not effectually killed by ſummer and winter fallow.

The END of the Second Volume.

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